UNIVERSITIES QUARTERLY

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Contents

Page

NOTES

The Editorship. University College, North Staffordshire. University Salaries. Degrees in Technology. University Institutes of Technology? 733

ARTICLES

MEDICAL EDUCATION—A SYMPOSIUM—

I. ORGANISATION by *L. Farrer-Brown* 737
II. TRAINING OF DOCTORS by *Dr. P. J. Macleod* . . 755
III. SOCIAL MEDICINE AND GENERAL PRACTICE by *Dr. J. H. F. Brotherston* 768
IV. THE MEDICAL CURRICULUM by *Dr. J. M. Mackintosh* . . 780

STUDENT RECRUITMENT FOR DENTISTRY by *Professor E. Matthews* . 791

UNIVERSITY ADMINISTRATION—AN INVESTIGATION BY THE UNIVERSITIES QUARTERLY 796

JOHN MURRAY ON HALLS—A COMMENT by *J. W. L. Adams* . . 814

REVIEWS

Coleridge as Critic, by *Professor H. B. Charlton.* An Essay on the Content of Education, by *J. Wolfenden.* The Freedom of Necessity, by *John Lewis.* The Creative Experiment, by *P. S.* The London Book of English Verse, by *E. M. H.* 818

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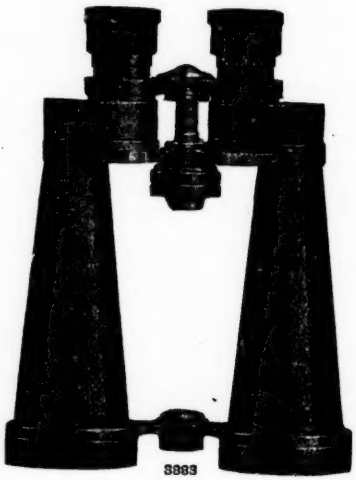

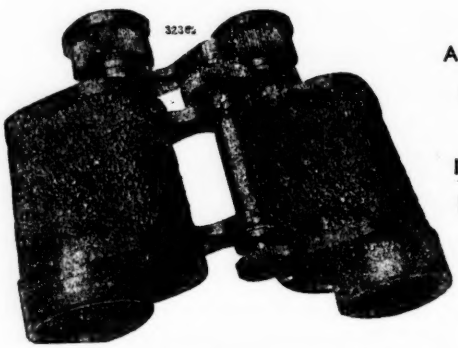

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UNIVERSITIES QUARTERLY

NOTES

The Editorship

We deeply regret to announce the death of Mrs. E. M. Hubback on July 15th. With Lord Simon of Wythenshawe she founded the Association for Education in Citizenship. It was largely due to her initiative that the Association founded the UNIVERSITIES QUARTERLY. Mrs. Hubback took an active interest in the Quarterly from the start, as Reviews Editor, and in other ways. She also took responsibility for editing the present number. A few weeks ago she became Joint Editor and was much looking forward to taking an even more active part in the work she loved.

Professor Kandel has edited the UNIVERSITIES QUARTERLY for the last year. He has now returned to the United States and has had to resign. We take this opportunity of thanking him warmly for his services.

We are glad to inform our readers that Mr. Charles Morris has accepted the editorship. Mr. Morris who was a tutor in Philosophy at Balliol, had a distinguished career in the Ministry of Supply during the war, then became Head of King Edward's School, Birmingham, and is now Vice-Chancellor of Leeds University. We are fortunate to have secured the services of an editor with such wide experience and so central a position in the university world.

University College, North Staffordshire

The University Grants Committee has approved the proposals of the North Staffordshire University College Committee for the establishment of a university college at Stoke-on-Trent, and will recommend the provision of grants for it if a Royal Charter is obtained. The Universities of Birmingham, Manchester and Oxford have been invited by the committee to sponsor the college, and the first two have already agreed. It is hoped to start the new college in 1950. The students of this university college, unlike those of older university colleges, will not sit for the external examinations of the University of London: it is intended that this university college should from the outset have the power of granting a B.A. degree. The college would have an Academic Council on which

there would be a majority of representatives of existing universities, and this body would approve senior appointments and regulate studies.

It has not unnaturally been felt that the university college at Stoke is having things made easier for it than the older university colleges, which have had to serve an apprenticeship and prove their standards by entering their students for London degrees. Lord Lindsay, chairman of the North Staffordshire committee, disclaims any desire to escape or shorten the process of apprenticeship, but claims that sponsorship by existing universities can take its place. The committee think this will be a more, not a less effective way of preserving university standards. The main advantage of the sponsorship scheme, however, is felt to be a greater freedom for experiment. This will, for one thing, enable the college to relate studies to the special characteristics of the district by stressing social studies and physical chemistry. More important, it will allow them to test the prevailing hopes that more general courses will be the salvation of university education.

Such experiments are to be welcomed, provided they can be carried out without hurt to university institutions and standards as a whole. It is a searching test of a college's standards to submit its students to the degree examinations of a university, and it will not be easy for sponsoring universities to provide an equally effective test by means of visits to the college. The representatives of the sponsoring universities will have to devote a very considerable amount of time as well as tact and wisdom to the new college if they are to vouch to the universities for their young charge. We trust that the test will be adequately searching. We do not think the backers of the scheme would have it otherwise, and we wish the new university college success.

University Salaries

The recommendations of the Spens Committee about the remuneration of consultants and specialists in the national health service has had repercussions on university salaries which may take a long time to settle down. The Committee of Vice-Chancellors and Principals and the University Grants Committee both pointed out to the Chancellor of the Exchequer that the Spens scales would cause severe difficulties in staffing the medical and dental schools of the universities unless salaries in these schools were revised.

Sir Stafford Cripps accepted this conclusion and agreed to make supplementary grants towards new rates of salary for full-time clinical and pre-clinical posts. It was obvious, however, that such a considerable revision of university salaries in one Faculty must have effects throughout the university, and grants are now to be paid towards higher basic scales throughout. The gap between the salaries of the medical staffs and those of their university colleagues will remain.

Degrees in Technology

The report of the Percy Committee on higher technological education left unsettled the question of the nomenclature of qualifications and the method of award. This problem cannot remain unresolved indefinitely. It is to be hoped, however, that the supporters of the two main proposals will not resort to " shooting it out " by mustering voting power to overbear their opponents. A victory which left a large body of people unpersuaded would not make for that rapid and effective development of higher technological education which is so necessary.

It will be recalled that some members of the Committee advocated the institution of a degree of Bachelor of Technology (B.Tech.), a State award to be made by a National Council of Technology. The arguments in favour of this were based mainly on considerations of status: secondary school leavers are attracted by degrees, and a degree has " national status and international currency ".

Other members of the Committee held that " to make the technological qualification a degree would obscure its most essential feature, namely, that it connotes a training different from what is given in universities, though not inferior in status ". They considered that a Diploma in Technology awarded under state authority by a National Council of Technology would soon win national and international acceptance and supply industry with the right type of entrant.

The chairman of the committee, Lord Eustace Percy, with the statesmanship to be expected of him in this field, argued powerfully for a varied evolutionary process. All the colleges should be given the title of the " Royal Colleges of Technology ". For the present, each should be given power, subject to the moderation of the National Council of Technology, to confer associateships and fellowships. Some of the colleges might become Faculties of

Technology of the neighbouring university, others might qualify for independent university powers, others would be content to command a reputation as Royal Colleges.

University Institutes of Technology ?

When a committee such as this reaches a deadlock it is fairly safe to assume that the right way of thinking is not all on one side. We hope that the National Advisory Council will not merely award a decision but will look for a solution to which both parties can be reconciled. Lord Eustace Percy has suggested a plan which merits further consideration. Another solution is suggested by the smooth and rapid progress of the new University Institutes of Education. In these, a variety of colleges—municipal, county and voluntary—have been brought together as university institutions. The municipal and county authorities and the governing bodies of the colleges have joined with the university in the management of the institutes, and the colleges have had a full share with university departments and faculties in the formation of academic or professional boards of studies. Close links among the staffs and even among the students of the constituent institutions are rapidly being forged. The students of the institute will qualify, under agreed conditions, for university certificates, and before long, it is expected, will be eligible for higher awards. If status is a desideratum, the colleges are achieving it by equal participation in the institutes and their awards: if standards are, as they must be, a consideration, they are guaranteed by the fact that the institute is fully an organ of the university.

The problems of higher technological education are obviously different from those of the training of teachers: but there are evidently possibilities of creative ingenuity in finding solutions to the new problems of relationship with which the changing times confront us. These possibilities should be discussed between the universities and the technical colleges in their own areas as well as at the national level.

MEDICAL EDUCATION—A SYMPOSIUM*

By L. Farrer-Brown

Secretary, Nuffield Foundation

I. ORGANISATION

The purpose of this article is to describe how the main recommendations of the Goodenough Committee on Medical Schools for the future development of undergraduate medical education in Great Britain have fared in the turmoil of change during the last four years. No attempt will be made to assess the merits of the Committee's proposals nor of what has happened since. That task is for others.

The Goodenough Committee was appointed in March 1942, " to enquire into the organization of medical schools, particularly in regard to facilities for clinical teaching and research." The background to this enquiry was the statement made in the House of Commons in October 1941, indicating the Coalition Government's post-war hospital policy. The Committee was told that under its terms of reference it could give full consideration to any question affecting the organization of medical teaching and its relations to the universities on the one hand and to the hospitals on the other.

The appointment and constitution of the Committee were the subject of some adverse comment at the time—and in some quarters dislike for the Committee and all its doings seems to have continued —but after receiving evidence from every interested organization, and from a large number of individuals competent to express opinions, the Committee found a " surprisingly large measure of agreement " and was able to claim for its recommendations " the support of the vast majority of those who are responsible for and engaged in medical education and research in all parts of Great Britain." The Committee viewed its recommendations as a programme of changes, evolutionary in character and far-reaching in results, that should be introduced at the earliest opportunity although the fruits of many of the reforms could not be gathered for many years.

* Edited by Dr. J. M. Mackintosh, Professor of Public Health, University of London.

The Committee found an urgent need for much larger financial support from public funds for both undergraduate and post-graduate medical education, and its report led the Government to meet this need. A few critics have asserted that persuasion of the Treasury to provide larger grants was the sole service of importance that the Committee rendered; if this be true it can at least be claimed that this single service was not an unsubstantial one. Before the last war the total amount of recurrent grants from public funds to the medical schools of Great Britain was estimated to be approximately £700,000 a year; an annual sum for each medical student of about £60. The Committee estimated that within 10 years these grants would have to be increased till they reached between £3,000,000 and £4,000,000 a year (at pre-war values). In addition an outlay of over £10,000,000 was considered necessary, over a period of 10 years, to meet the capital developments of medical schools, and of teaching hospitals in providing accommodation and other facilities for teaching and research. In January of 1945 the then Minister of Health announced in the House of Commons that, " recognising the fundamental importance of medical education and research to the future of the country's health services "—(an importance to which the Committee had drawn pointed notice and which even now does not receive in practice the attention it deserves)—the Government accepted the principle of increased grants for medical education and agreed that the University Grants Committee should make the distribution. In the following month the Chancellor of the Exchequer announced that for each of the financial years 1945–46 and 1946–47, the *increase* in the annual vote for the universities would include £1,000,000 for developments in the medical schools arising out of the recommendations of the Goodenough Committee, and a further £500,000 for grants for teaching hospitals.

That was the beginning. Since then the amount provided for medical schools has steadily increased. For 1947–48 the total additional grant (excluding the grants for teaching hospitals discontinued from the date when the National Health Service came into operation) has risen to roughly £2,500,000; and for 1951–52 the Treasury has promised that it shall be about £3,200,000.* Of this amount about £2,750,000 will be for undergraduate medical

* The carrying out of the recommendations of the Spens Committee on the Remuneration of Consultants and Specialists may necessitate a considerably larger grant.

training. This is money additional to the pre-war grants ; so that in 1951–52 the total grant will be roughly four to five times the pre-war total. Assuming that the total number of full-time students is about the same as at the present time, the grant will be equivalent to about £240 a student.

So far capital expenditure has been on a relatively small scale.

Medical Students Need a University Education

The principal recommendations for undergraduate medical education were the product of the Committee's belief—a belief shared by almost all its witnesses—that a medical student needed more than a mere technical training. He required a university education that would enable him to enter medical practice " with an outlook beyond the confines of an examination syllabus, with a well-disciplined mind, wide human interests and an intelligence able to move with the progress of human knowledge." In view of the noteworthy rise in the social status and influence of the medical profession during the last 70 to 100 years, it is not surprising that the Committee should advocate for medical students the highest form of education that Society can provide. Having found that too large a proportion of medical students were not receiving a university education—a state of affairs that still exists and is likely to continue for many years—the Committee proceeded to suggest changes which it thought would, in time, remove the causes of this shortcoming. It considered that the training of undergraduate medical students should be the responsibility of university medical schools, and it wanted the universities to have the powers they needed to do the job well. It recommended that non-university medical schools should be abolished; that the selection of teachers and the organization of the teaching staff should conform to the pattern and practise that had been found by long experience to be the best in all other branches of university life; that the medical schools should have an effective voice in the direction of the teaching hospitals; and that the examinations qualifying students for admission to the Medical Register should be " internal " university examinations.

The concentration of medical training in university medical schools can rightly be regarded as an evolutionary development in British medical education. By the time the Committee reported, all but four of the thirty medical schools in Great Britain had become university institutions—though some were so more in name than in

practice. Three of the non-university schools were in Scotland—two in Glasgow and one in Edinburgh; these schools no longer exist, having now been absorbed by the Universities of Glasgow and Edinburgh. The other non-university school was in London; this school still exists but has ceased to train undergraduate students and instead, with its parent hospital, has become part of the British Postgraduate Medical Federation. So the Committee's recommendation that undergraduate medical training should be given solely under the aegis of universities has been carried out much more quickly than appeared possible when the Committee made it.

The relations of the University of London and its twelve general medical schools also figured in the Committee's examination of university responsibility. Almost all these schools—which together are responsible for training about 50 per cent. of the medical students in Great Britain—grew up slowly from an unorganized system of apprenticeship in some old-established voluntary general hospitals; although on the reconstitution of the university in 1900 they became "Schools of the University," they continued to be more closely associated with their parent hospitals than with the university. At the time the Goodenough Committee reported, their transformation into university institutions—in fact as well as in name—had not been completed.

Chiefly as one means of accelerating the development of closer ties between the university and the schools, the Committee recommended that all the undergraduate medical schools in London should become incorporated as educational institutions, legally and financially separate from their parent hospitals. Two had already achieved this independent status. The others were still departments of their parent hospitals, the ultimate controlling power and responsibility for their affairs being in the hands of the governors of the hospitals. Effect was given to the Committee's recommendation by clause 15 of the National Health Service Act 1946. The governing body of each school was required to submit to the University of London for approval a scheme for constituting a new governing body of the school which should be in law a body corporate. Provision had to be made for the university, the teaching staff of the school and the Board of Governors of the school's teaching hospital to be represented on the governing body of the school. The approved schemes came into operation on 5th July, 1948. It has been said that the change is already yielding good results.

Organization of Teaching Staff

The teaching staff of the medical schools was organized on an entirely different pattern from that in all other branches of university work: the Goodenough Committee, like most of its witnesses, thought that the usual university pattern would be much better. The ground work and the greater part of the pattern in vogue in the medical schools portrayed the origins of medical education in this country; some recent slight additions inspired by university influences had improved parts of the design, but the whole was unbalanced and unsatisfactory.

In the pre-clinical departments and in the departments of pathology the staffing arrangements, in general, followed the university pattern. Here the main needs were for more teachers and better salaries, not for a complete re-organization of the staff such as was required in the clinical departments. In the clinical departments, only a small minority of the senior staff held whole-time appointments. Like most of the other clinical teachers, they earned their livelihood by private practice and had to devote most of their time and thought to it. Often they were on the staff of a number of widely dispersed hospitals and in many cases they attended the medical school and teaching hospital for only a few hours a week; sometimes the claims of private practice interfered with these limited attendances. Most clinical teachers were not paid salaries, though some received small honoraria from students' fees. Except for university appointments (which were few compared with the total number of clinical teachers and which affected only a small part of the teaching work), most of the medical schools did not take part in the selection of clinical teachers. Promotion by seniority in the hospital was the common practice, and frequently a medical school had to accept members of the hospital staff as clinical teachers, regardless of their ability to teach, because otherwise the school could not gain access to the clinical facilities it needed. As the Goodenough Committee pointed out, the devoted service (often at personal sacrifice) of many clinical teachers had minimized the defects inherent in the system.

The system was thought to be defective also in the absence of cohesion in the clinical teaching. A severe critic might have described the arrangements as an example of "isolationism." The customary organization of clinical training—as of the treatment of patients—was on the basis of independent clinical units, called

in some hospitals "firms" and in Scottish hospitals "clinics." Each unit had charge of a small number of beds, shared in the emergency work of the hospital, and in many instances did out-patient work at certain times of the week. Broadly speaking, each unit was an independent entity. The clinicians in charge were responsible for the clinical instruction of the students attached to the unit and largely determined its nature. At some medical schools a few professorial clinical units had been introduced; each of these had a whole-time professor at its head and employed more whole-time assistants than the ordinary units. But in clinical work and the training of students, the professorial unit ran parallel with the other units and its professor had no responsibility for the teaching in the ordinary units. No doubt, depending on his ability and personality, he influenced the teaching work of his clinical colleagues in charge of other units, but he had no authority to ensure that the training given in his subject, whether it was medicine or surgery, was what the students needed and was conducted in a way best calculated to give them a sound understanding and a balanced clinical experience. Increasing specialization in medical work aggravated the trouble.

For the removal of the main defects in the course of time—and it is necessary to recognise, as the Committee did, that it will be many years before the process of change can be completed—the Goodenough Committee made a number of proposals:—more whole-time appointments of all grades (senior, intermediate and junior) in medical schools and teaching hospitals; the introduction of new machinery for the selection of clinical teachers; the appointment in each clinical department of a whole-time or part-time academic head personally responsible for the general direction of teaching and research in the department; the payment of salaries to part-time clinical teachers for defined duties.

With the aid of the increased grants received from the University Grants Committee a start has been made in the creation of more whole-time teaching appointments. Individual schools have developed at different paces and in different directions, but in all cases there has been an increase in whole-time staff. For all medical schools together, the number of whole-time posts now in existence is considerably larger than before the war, although still much smaller than the number the medical schools wish to have ultimately. An interesting comparison is shown by the figures given in Table A

TABLE A

FULL-TIME STAFF IN THE PRE-CLINICAL AND CLINICAL DEPARTMENTS AND FULL-TIME UNDERGRADUATE MEDICAL STUDENTS

	Staff								Students	
	Professors and other Heads of Departments		Lecturers		Others		Total			
	1938–39	1947–48	1938–39	1947–48	1938–39	1947–48	1938–39	1947–48	1938–39	1947–48
Medical School of—										
University of Birmingham	6	12	14	34	—	8	20	54	345	497
University of Liverpool	7	9	9	25	5	14	21	48	505	560
University of Manchester	7	16*	10	26	14	31	31	73	418	595

* In addition six professors, although part-time, devote a considerable amount of time to organizing and supervising their departments, in addition to time spent on teaching and research.

for three provincial schools, chosen at random—the schools of the Universities of Birmingham, Liverpool and Manchester.

The figures are for the pre-clinical and clinical departments together. While additional staff has been appointed in the pre-clinical departments, many of the additional posts, including most of the senior ones, are in the clinical departments. Some of the new whole-time posts have been created because the number of students has increased; but the majority are the outcome of the adoption by the medical schools of the staffing scheme recommended by the Goodenough Committee.

Particulars of the number of new whole-time clinical professorships created in the years 1946–8 give a good indication of the degree of change to the new order of staffing. The figures mentioned are for all the medical schools together. There are differences between individual schools, one, for example, having 6 whole-time clinical chairs, while others have none.

At the time the Goodenough Committee reported there were in the undergraduate medical schools (excluding Oxford and Cambridge) 11 whole-time clinical professors; 8 of them were heads of professorial units of medicine or surgery in the London schools, and the other 3 held chairs in provincial schools. In May 1948 in the same schools there were 40 whole-time professors in clinical subjects; there were also a few other professors who, though technically part-time, were devoting almost all their time and energies to their departments in the medical school and teaching hospitals. The 40 chairs were distributed over 20 medical schools and by subjects as follows :—in medicine 13, in surgery 13, in child health 7, in obstetrics and gynaecology 3 and in psychiatry 4. Besides these chairs there were a number of whole-time chairs in social and preventive medicine and in occupational medicine, financed either from the Treasury grant or from other sources.

The significance of these figures becomes clearer in the light of certain other facts. In 1945 the University Grants Committee urged the medical schools—and there is no doubt that its advice was heeded—not to create new whole-time clinical chairs until they had found candidates whose suitability for these high academic posts was beyond doubt. Like the Goodenough Committee, the University Grants Committee thought that the new system should not be brought into operation with undue haste, and that the risk of appointing to the new whole-time clinical chairs persons lacking

the special qualifications was to be avoided at all costs. Before making grants for these chairs, the University Grants Committee required assurance that the professor would be the academic head of his department with full personal responsibility for the co-ordination of clinical teaching, and that he would have the requisite clinical and laboratory facilities.

The academic head of a department was to be personally responsible for the co-ordination of teaching within the department and for its proper linkage with teaching in other departments. While the clinicians in charge of firms or clinics would continue to have the same unfettered responsibility for the care of their patients, in the training of students their independence would be restricted to the extent necessary to enable the academic head to fulfil his educational responsibilities. In the case of a clinical professor, the principle of academic headship meant that in the organization of teaching he had the same status, duties and powers as professors in other faculties of a university—a truly revolutionary idea for British medical schools. As one having a measure of authority in educational matters, but no authority over his colleagues in clinical matters, the clinical professor differed from the " Direktor " of a clinic in a continental medical centre.

Like the holders of the recently created chairs, the professors previously in charge of the professorial units in the London medical schools are now recognised as the academic heads of the departments of which previously their unit was a part. Of the medical schools which have not yet created whole-time chairs in clinical subjects, all but three have nevertheless accepted the principle of academic heads of departments for teaching purposes.

The Goodenough Committee's proposed scheme of re-organization has been adopted more rapidly and widely than was generally expected four years ago. But to avoid a too optimistic impression it must be noted that in some cases the principle of academic heads has been accepted with reluctance, and that probably in a number of schools the principle will not be fully applied in practice for some time. But this is only to be expected in a change so radical; and against any doubts must be set the solid fact that men of high quality have been appointed to the whole-time chairs.

Alongside its advocacy of whole-time chairs and other whole-time appointments, the Goodenough Committee stressed the important rôle of part-time clinical teachers in the training of students. It

was to allow these teachers to play their part in a way that would make the students' training an orderly development that the Committee recommended that they should be paid salaries for specific teaching duties. Receiving grants for the purpose from the University Grants Committee, over twenty medical schools have now given effect to this recommendation. It is not possible at the time of writing to forecast what effect the carrying out of the recommendations of the Spens Committee on the Remuneration of Consultants and Specialists may have on these arrangements, or indeed on the future of whole-time professorships in clinical subjects.

New machinery for the selection of the medical staff of teaching hospitals is being introduced under the National Health Service. Provided that the universities, and in London the medical schools of the University as well, are given adequate representation, the new arrangements will be of the kind suggested by the Goodenough Committee, and should serve to secure that clinical teachers are selected from the widest possible field of candidates. Presumably the paramount consideration in the selection will be—to quote from the British Medical Association's Memorandum of Evidence to the Goodenough Committee—" the candidate's ability to teach, practise and advance the science and art of medicine."

Arrangements for Clinical Teaching

The greater part of the education of a medical student must be conducted in hospitals and other places where he comes into daily and close contact with patients under medical study and treatment. The long-standing issue, not yet resolved, is the extent to which the work and staffing, the arrangements and accommodation, in the hospitals in which students are trained (the " teaching hospitals ") should be different from those in other hospitals. There is no dispute that medical schools must be more intimately associated with some hospitals than with others, and that the teaching hospitals must be adapted to serve educational needs. The teaching hospital has a dual rôle: it must care for the sick and it must provide for clinical training. Which of these functions should be paramount, or whether they should receive equal emphasis, has been hotly argued. On the one side a small but weighty body of opinion considered that the primary duty of a teaching hospital should be educational, the university medical school assuming complete responsibility for the hospital, being free to design its clinical pattern

to suit the needs of medical education and research. The opponents of this view either took the line that the claims of teaching and research, even in a teaching hospital, must be subordinate to the requirements for the care of the sick, or—and this was more common—maintained a middle view, shared by the Committee, that the two functions were equally important. The Committee did not lag behind supporters of the idea of " university " hospitals in attaching the highest importance to medical education—indeed it went out of its way, at the very beginning of its report, to emphasize that in its opinion the essential foundation for a comprehensive national health service was a " properly planned and carefully conducted " system of medical education. But it believed that the aims of those wanting " university " hospitals could be achieved no less successfully by less radical changes.

To some this issue may appear academic. Experience has proved that it is not. Conditions at the time the Committee reported were the product of the view that even in a teaching hospital the claims of education were secondary. These conditions had developed not from deliberate decision, but from the manner in which medical education had grown in Great Britain. With few exceptions the teaching hospitals were in existence as charities for the care of the sick poor long before they had any concern with the training of doctors. The hospitals were owned and managed by governing bodies that were completely independent of the universities and on which, outside Scotland, the universities rarely had any representatives. As a rule, universities had little influence on the policy and activities of these hospitals. Often, they were unable to secure in the hospitals the facilities required for education and research. Rarely was refusal due to a lack of goodwill on the part of the hospital governors ; sometimes it was due to shortage of money, more often to failure to understand the educational needs and to a blind acceptance of the view that those needs as a class were of secondary importance. The training of medical students suffered a great deal.

To overcome these and other defects the Goodenough Committee proposed the development of " medical teaching centres." Such a centre was to consist of a university medical school, a group of teaching hospitals (parent* and associated) situated as close to the

* By a " parent teaching hospital " was meant the hospital most closely associated with a medical school and in which the major part of the students' clinical training would normally be provided.

medical school as possible, and such of the clinics of the health services of the district as were required for educational purposes. Each member of the group was to retain its own governing body but the policy, administration and activities of the constituent members were to be so interlocked that the institutions of the group functioned as one in the fields of medical education. The university medical school was to be the dominant partner. Besides having representation on the governing bodies of the teaching hospitals and an effective vote in the selection of medical staff, the school was to be a member of the group that applied for and distributed all grants for the medical educational work of the centre. The long-term aim was to bring the buildings of all the members of the group on to adjacent sites so that the " medical teaching centre " could be seen and understood as an entity. The teaching hospitals, and particularly the parent teaching hospital, were to provide the accommodation and clinical facilities required for teaching, and be run no less in the interests of education than of the sick. The admission of patients to the parent teaching hospital was to be selective and controlled in the interests of teaching.

The movement towards the development of medical teaching centres substantially as envisaged by the Committee has been accelerated by some of the provisions of the National Health Service Act, and progress should continue unless held up or diverted by the adverse exercise of administrative powers. There are one or two powers granted by that Act which could be used in a way detrimental to medical education and which will have to be watched. Progress so far may be described as a normal human step forward rather than the giant's stride that was needed and which to some at least seemed possible.

University Influence on Teaching Hospitals

By the National Health Service Act the universities have been given opportunities for wider influence in the hospital service generally and especially in the life and work of their teaching hospitals. Except for the few institutions disclaimed under the Act for special reasons, the ownership and ultimate control of all hospitals in England and Wales has passed to the Minister of Health and of those in Scotland to the Secretary of State for Scotland. The Minister of Health's statutory duties to provide hospital and specialist services are being discharged chiefly through

fourteen Regional Hospital Boards—acting in the day-to-day administration of hospitals through Hospital Management Committees and Boards of Governors of designated teaching hospitals. (In Scotland the administrative arrangements are different: there, all hospitals, whether or not they provide clinical teaching facilities for medical students, are administered on behalf of the Secretary of State by Regional Hospital Boards.) The universities have, by statutory requirement, to be consulted about the appointment of a proportion of the members of the Regional Hospital Boards. In the present membership of these Boards university opinion is well and fairly represented.

Each of the Scottish Boards is required to appoint a Medical Education Committee to " advise it on the administration of the hospital and specialist services in the area so far as relating to the provision of facilities for . . . clinical teaching or for research." On these Committees the universities have equal representation with the Regional Hospital Boards and there are in addition on each Committee two or three members appointed by the Secretary of State for Scotland. The functions of these Medical Education Committees are purely advisory to their Hospital Boards. As agents for the Secretary of State, the Boards are responsible for deciding what facilities shall be made available for clinical teaching and research—subject to overriding directions by the Secretary of State. The day-to-day administration of the old teaching hospitals such as the Edinburgh Royal Infirmary and the Western Infirmary, Glasgow, is now in the hands of Hospital Management Committees appointed by and answerable to the Regional Hospital Board.

The English Act empowers the Minister of Health, after consulting the university concerned, to make an order designating as a teaching hospital " any hospital or group of hospitals which appear to him to provide for any university facilities for undergraduate or post-graduate clinical teaching." A group of hospitals so designated becomes a single hospital with one Board of Governors. These teaching hospitals have been designated and their Boards of Governors appointed. In almost every case they have been formed by the amalgamation of a small number of hospitals. In the provinces they are known as the United Hospitals of the university city in which they are situated, for instance " the United Liverpool Hospitals " and " the United Sheffield Hospitals." In London the new teaching hospitals carry the famous names of the previous

parent hospitals of the various medical schools, for example St. Batholomew's Hospital and Guy's Hospital.

Unlike the position in Scotland, these teaching hospitals are administered by Boards of Governors answerable not to the Regional Hospital Boards but directly to the Minister of Health. Although the statutory provisions do not secure majority representation for the educational elements, those responsible for medical education are now in a much better position to make their needs known and understood. Whether they succeed in having those needs fully met will depend to some extent on the ability and forcefulness of their representatives; but it will depend no less on the attitude in days to come of the Minister of Health. The duty of the Board of Governors of a teaching hospital is generally to manage and control the hospital on behalf of the Minister. The Board is subject to regulations made by the Minister and to such directions as he may give. The acquisition, leasing and disposal of land and premises have been reserved to the Minister of Health himself and the Board cannot embark on any building-work costing more than £10,000 without the prior consent of the Minister. It has been stated that this last proviso is to ensure that developments are carried out in accordance with the general policy of the hospital service. The Minister intends that the delegation of responsibility to the Boards of Governors shall be as great as possible and shall allow the largest possible measure of flexibility and variety in administration; but the ultimate power of laying down the manner in which the various functions are to be performed has been specifically reserved to the Minister, because it is on the Minister that the statutory duty rests of providing adequate hospital and specialist services. The Boards are his agents. In describing the particular duty of providing facilities for clinical teaching and research—the duty for which the teaching hospitals in England and Wales have been separated from other hospitals—the Act itself states that the hospital shall provide for the university with which it is associated "such facilities *as appear to the Minister* to be required"; not, be it noted as appear to the university or even to the Board of Governors, but as appear to the Minister—who is the head of a government department whose essential duties are not educational. Difficulties may not arise from this provision—but that they could easily arise seems clear. Those concerned with medical education would no doubt like to know how the Minister proposes to inform himself of the

nature and extent of the facilities that are required. This seems a matter on which watchfulness may prevent the growth of handicaps that no one desires.

The introduction of the Ministerial power of deciding the facilities to be provided, together with the fact that clinical teaching facilities will presumably be paid for by the Boards of Governors from monies they receive direct from the Ministry of Health for the running of the hospitals, may lessen the power which the Goodenough Committee wished the university medical schools to be able to exercise in the teaching hospitals. The Committee wanted the medical schools to have this power so that they could secure that the whole of the medical training was a logical development, through the pre-clinical and then on to and through the clinical period. Except that the universities now have representation on the governing bodies of teaching hospitals, the arrangements under the National Health Service Act reproduce essentially the previous arrangements for the provision of clinical teaching facilities. Then the universities had to take what the teaching hospital governors decided they could have; in future they may have to make the best of what the Minister and his hospital agents decide they can have. To say this is not to give rein to mere suspicion. The Ministry of Health has already made up its mind on the relative importance to be attached to the two functions of a teaching hospital—it did so apparently without consulting any of the bodies responsible for medical education. The Boards of Governors have been told that a teaching hospital's primary function is to care for the sick and that the governors in fulfilling their responsibility to provide for clinical teaching must not allow the hospital's primary function to "suffer." Since it is beyond dispute that in the past the standard of care of patients has been highest in teaching hospitals, the use of the word "suffer" by the Ministry can only imply that in any conflict of claims, those of education are the ones to be refused. The Ministry's decision is not being argued here. It is mentioned merely to bring out the point that, on the work of teaching hospitals, there may be quite a wide gap between the view which led to recommendations of the Goodenough Committee and the view on which the Ministry is acting.

Before the last war, most of the medical schools were well aware that their students could not obtain in the main teaching hospitals the range of clinical experience they needed. In various ways, the

schools increasingly, though in many cases tentatively, were using other hospitals for teaching purposes. The Goodenough Committee came to the conclusion that for many years to come, perhaps always, the schools would have to use a number of hospitals in addition to the main teaching hospitals, and it described how it thought this could best be done. Basing its calculations on an admission of 100 students a year to a medical school—a number which, on a balancing of the sometimes conflicting considerations, it thought provided a school of reasonable size—the Committee estimated that a school with this annual intake needed, for clinical teaching, access to about 1,000 beds—not necessarily all in a single hospital. The teaching hospitals designated under the National Health Service Act do not provide facilities on this scale, and it appears certain that, whereas to the Goodenough Committee the problem was how good use could be made of local authority hospitals, the problem now facing the medical schools is how best to arrange with Regional Hospital Boards for part of the training of students to be given in hospitals under the control of the Boards. The problem has still to be solved.

Examinations

The arguments which led the Goodenough Committee to advocate that qualifying examinations for admission to the General Medical Register should be " internal " examinations in the usual academic sense need not be reiterated here. They are familiar to all connected with universities, for the battle between " internal " and " external " examinations is an old one and is still joined. So far the Committee's recommendation has had no effect and broadly the position now is the same as when the Committee examined the question. A medical student has a choice of qualifying as a registered medical practitioner by virtue of a university medical degree or by one of several diplomas, of which the principal one is that awarded by the English Conjoint Board (appointed by the Royal College of Physicians and Royal College of Surgeons).

In the Scottish universities and in the provincial universities in England and Wales (with the exception of Oxford and Cambridge) the large majority of the medical students qualify as doctors by passing the final examination for a university medical degree. In the main, these examinations are " internal " in character. The

other qualifying examinations, including the final degree examinations of the universities of Oxford and Cambridge and London, are essentially " external " examinations. The Goodenough Committee, believing that examinations must be the servant and not the master of the training, hoped that the University of London would introduce " internal " examinations for its M.B., B.S. degree as it has for degrees in science and in other faculties, and that the Universities of Oxford and Cambridge would take similar action. It also hoped that the Royal Colleges would see fit to give up the examination of undergraduate medical students, and would develop to the full their unique place in the higher planes of medical education. The Colleges are now taking a prominent part in post-graduate education, but they continue to run " external " examintions for undegraduates.

As an immediate step in the direction of the desired subordination of examinations to training, the Goodenough Committee proposed: (i) that every medical school should provide a single organised course of training, planned and conducted on the basis of the requirements for the medical degree of the university of which the medical school is a part, and (ii) that it should be compulsory for every student of the school to complete the whole of this course before presenting himself for examination in a clinical subject at *any* final examination qualifying for admission to the Medical Register.

Little more than passing reference can be made to a few of the other recommendations of the Committee. From the Autumn Term 1947 those London medical schools that had been male preserves have admitted women students. The proportion may be small, but a long-standing cause of vexation has been removed—and the heavens have not fallen.

Curriculum

The General Medical Council in 1947 revised its recommendations to licensing bodies about the minimum training for medical students; in some respects the revisions accord with suggestions of the Goodenough Committee, in others they do not, for reasons stated in a memorandum—itself an innovation—explaining the Council's views and decisions. Notably the Council did not agree that the length of the training, excluding a period spent in compulsory pre-registration house-appointments, could be reduced to four-and-a-half years as the Committee suggested. How soon before the next

revision of the curriculum is a question for conjecture ; in 1948 the B.M.A. issued its latest views on medical education* and asserted that " there is universal agreement that reform of the medical curriculum is both a compelling and an urgent need ".

The General Medical Council has approved a draft Medical Bill which if it reaches the Statute Book will give the Council additional powers recommended by the Goodenough Committee. The Council will then be entitled to arrange for the regular inspection of courses of training ; at the present time its powers of inspection are limited to the examinations qualifying for admission to the Medical Register. It will also be able to give effect to the proposal for compulsory pre-registration house-appointments. This proposal has received almost universal support. Under the draft Bill, the General Medical Council may require every medical student, after passing a qualifying examination but before he is admitted to the Medical Register, to hold in a satisfactory manner appointments as a resident officer in an approved hospital or hospitals for a period of at least 12 months. The draft Bill was approved by the General Medical Council in May 1946, and there are hopes that it may find a place in the legislative programme of the present Parliament. Its early enactment is impatiently hoped for by those who believe—and the belief seems well founded on experience—that the introduction of compulsory pre-registration house-appointments would do a very great deal in the production of better trained and experienced doctors. It is also claimed, as an indirect result, that it would lead more effectively than many other recent changes to a general raising of the standard of work in hospitals throughout the country.

* *The Training of a Doctor.* Report of the Medical Curriculum Committee of the British Medical Association.

II. TRAINING OF DOCTORS

A General Practitioner's Point of View*

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The suggestion has frequently been made in recent years that the training of medical students to become doctors is not all that it should be. This is variously expressed in terms such as "They're all being trained to become professors" or "They get no training for general practice". It should be interesting to see if there is any truth in these accusations and if so how the position has developed and whether it is possible to do anything to alter it.

There is little doubt that the training of students has changed with the years. A century ago there was less emphasis on what might be termed the academic aspects of medicine, possibly because there was less material of this type to work on, and the student tended rather to sit at the feet of the master of the art and listen to his wisdom, acquired from experience. Teaching was less organised than it is today and was by precept and example followed by, and coincident with, a period of apprenticeship to a working doctor. Life as a whole was more leisurely and less socialised, and teaching was on the same plane. Students then had more opportunity of meeting and getting to know their fellow men in their different ways of living, and the stress and rush of modern life had not yet crowded them into the congested field where there is little time for acquiring knowledge in the wider sense. The doctor of that time when he did qualify was a more developed man than his colleague of today; he had a larger experience of life and had learned his job in a more practical way. He was thus more easily accepted not only as the medical adviser but as a counsellor by his patients and he ranked high among them and his fellow men. This appreciation of him was not perhaps so much because of his medical skill, nor because of his social acquirements or his financial standing, but because he was the master of an art, learned as any art must be by a width of experience and of practice.

It is no wonder that such a profession attracted more and more men and indeed finally women into it. This, together with the

* Extracted from a memorandum written in 1946.

greater number of facts being discovered, necessitated a higher and more efficient degree of *organisation* of teaching, and the leisurely years of learning had to give way to a crowded curriculum, and cramming replaced absorption of knowledge. To enable the ground to be covered more theory and less practice was introduced with apparent and superficial efficiency but with definite detriment to the art of medicine and the practice of it as a profession.

The assumption that medicine was a science came to be accepted, and teaching and training was largely put on this footing, with a consequent loss of contact by the student with the humanism necessary to his own development and to the mental welfare of his patients. This, despite the fact that there is as yet not a sufficiency of knowledge of the human mind or body or the ills thereof to constitute a science. The learning of an art gradually has been replaced by the rapid acquisition of a pseudo science !

A more detailed look at the position may be of interest at this stage. For this purpose the profession may be divided into the two groups which doctors tend to fall into after graduation, viz.,

Specialists and Practitioners

(*a*) specialists—including teachers, and

(*b*) general practitioners—constituting 60–75 per cent. of the total.

First of all there is insufficient liaison between these two sections —the Specialist and the General Practitioner—and a gulf inevitably appears between them which is harmful to both and to the profession. The specialist tends to look down on the man in general practice as being almost of a lower order—as indeed he is, if the memorising of the few facts and the large number of theories of medicine be accepted as the standard, and knowledge of the art, and of the early manifestations of disease be disregarded. The practitioner, protective of what he regards as his ignorance, and slightly envious of the specialist attacks the other on his lack of knowledge of the problems of general practice.

There is no doubt that by their original training and their concentration on single subjects, many specialists are completely out of touch with the realities and difficulties of general practice and even with the early signs of disease. They see only the difficult cases and at a comparatively advanced stage, or the ones that

have been mismanaged. They therefore form an erroneous impression of the general practitioner, of his capacity and his responsibility in retaining the confidence of patients and in controlling and anticipating the development of many of his cases, and tend to look down on him and on his class.

Unfortunately the case of the teacher is no different. Initially selected out of a comparatively small "possible" number and only out of those who have specialised, *he* must have the capacity to stay on and junior someone else almost indefinitely. He gradually tends to become a part of the appurtenances, irreplaceable, and to generations of students apparently everlasting. A man's academic attainments are no criterion whatsoever of his ability to teach, yet this often is the factor in his selection and he gets no tuition in teaching. These same academic distinctions moreover, in the present system, guarantee an almost total lack of knowledge of general practice, and he never has any opportunity of acquiring any. Yet the majority of his students are being trained by him for this work. It is inevitable therefore that his teaching should be ill-balanced and tending to specialism—the only branch of medicine he knows. A teacher can impart but what he knows and certainly nothing of which he is totally unaware.

So much for the practitioner's viewpoint of the specialist and its *raison d'etre*. What of the practitioner himself?

A great deal is heard of the importance of the "family doctor" nowadays. He is lauded as the "backbone of the profession" and also dismissed as "only a G.P." He can hardly be both and the profession must decide ere long which he is to be. Actually he is rapidly becoming "only a G.P." by his own quiescent acceptance of this rating forced on him by a plethora of specialists and conveyed to his patients—the general public—in clinics, health talks, press and radio propaganda. As a result, they consider themselves neglected unless they have the maximum of specialists, X-rays, laboratories and mysteries beyond the ken of their "doctor".

It may not be wholly true to say that general practitioners are practising their work with less efficiency than their predecessors but they are undoubtedly less self-reliant and accept less responsibility for decision and action, and are less expert in using the greater amount of knowledge available to them. This is easy to understand. Their training is largely cramming of the "scientific facts" of medicine, imparted by teachers who themselves are unaware of the wider

aspects and of the problems of practice. Actually there are but limited possibilities of putting these scientific facts into operation in practice, even if many of them were of value. The total proved facts of medicine as applied in the wards would not hold a general practice together for a year. Nevertheless, graduates are turned out into practice each year without realising this, with their heads filled with complicated tests and theories which they can no longer apply nor substantiate, and with little or no training in the art of practice, the recognition of early and of acute disease, or of minor ailments and the method of handling patients, all of which constitute the major portion of their work. They realise early that the science they thought they knew so well does not apply somehow, and often with some slight resentment at their teachers they forget most of it as quickly as they learnt it. What percentage of practitioners after ten years in an industrial practice can do a blood count, or even a Haemoglobin estimation? The feeling of incompetence of the beginner in practice when he finds that his theoretical knowledge does not fit in, gradually gets replaced by his acquiring a sense of the art of practice as confidence is established, but often not as regards his specialist colleague or his teacher whom he tends to avoid in case he discloses what he considers to be his ignorance—as indeed it is—of their part of the subject. The specialist, not knowing that he is dealing with colleagues who have acquired something he has never realised, accepts this attitude with more harm to himself ultimately than to the practitioner. With such ill-preparation and with such an unpromising start, it is a wonder how well most practitioners learn their work. Many don't, however. They leave off the scientific approach when they find it difficult or that it does not apply and take to the easy method of earning a living—sometimes with able tuition from a senior—by evasion, prevarication, and the glib tongue. They slip quickly by rule of thumb methods to mediocrity, incompetence and quackery. The standard of medicine practised by some general practitioners is lower than that in any other profession and it is time the profession realised that fact.

Can anything be done to check the development of this gap between the specialist section of medicine and the general practitioner? Both are necessary and both must work together—the one actually practising medicine in all its varied aspects and the other—the individual with the specialised knowledge dealing with

the problems and helping. To attain this ideal, the selection of students must be attempted, the selection and training of specialists and teachers must be revised and the training of practitioners brought more closely into line with their work.

Selection

(*a*) *Selection of Students.*—A certain standard of general education is necessary and the present level of this is possibly sufficient. Where possible, and where a student knows he is going to enter for medicine while he is still at school, he should be encouraged to take elementary biology and science. Selection at entry should however consist of more than a certificate of academic passes in examinations. Two or three doctors of wide experience and knowledge of people should interview candidates. They would take examination results into account and apply tests to amplify these if necessary—not educational ones. They should have an indication of the candidate's background —not social nor financial—but the facts therein indicating capacity and initiative; his reasons for desiring to enter medicine; and would attempt to assess his capacity thereon. This form of selection is admittedly difficult and possibly erroneous, but its value in excluding the unsuitable is definite and is accepted even by industry in their appointment of selection officers to choose their worker candidates.

Moreover this form of assessment should be applied at subsequent professional examinations—especially those of the first three years. Much can be learnt about a student's capacity for becoming a doctor by assessing him during his earlier years. He would of course require to pass his technical subjects to the satisfaction of his examiners, but his development generally would be taken into account by the observers who naturally would have access to the opinion of the teachers. As much weeding out as possible should be done in the first two to three years. This is fairer for the students themselves and for their fellows.

(*b*) *Selection of Specialists and Teachers.*—The main criticism of the selection of specialists is that they specialise too early—before they know what their particular bent is, and before they have a sufficient background of knowledge of the whole profession. As for practitioners, there is no selection at all—they go into general practice as the normal thing if they have no urge or financial backing to specialise.

Up to graduation, the training of prospective specialists and general practitioners should, of course, be the same. Both should, however, have to go into general practice for at least three years before being allowed to specialise in any subject. This may seem a long time, but a young man suffering from mental indigestion from five years' theorising does not develop application of his knowledge and a sense of proportion in a short time. An eminent specialist has been heard to say—"Oh yes, my boy. You can't tell me anything about general practice—I did two months' locum in a mining practice in the north of England after I graduated !" Well, even two months may be better than none, but it is hardly likely to contribute much to the development or understanding of a life's work. During these three years, men would gain experience of the problems of practice, what could and should be done and what could be left out, and moreover would gain tremendously in their own sense of values in the profession as a whole. They would get to know whether they had an interest in any particular subject and their "specialising" would then be done from interest and not for gain only. When they had specialised, they would understand their colleagues in general practice better and be more able to help them and moreover would soon alter the methods of teaching to bring it closer to the reality. The general practitioner would feel that his art was understood and appreciated and that his being in general practice was not an index of inferiority but of choice.

This probationary period of three years would ensure a greater degree of liaison between men in general practice and the university and teachers. As it is now, a man who has been even three years in practice has fallen off the moving staircase and has very little chance of getting into a speciality or into teaching. This liaison will be dealt with more fully later.

Training

Whatever the intentions of particular students might be with regard to specialising or otherwise, there is no doubt that this basic initial training should be the same for all:—

1. *General Training.*—Illness in a family is the most common catastrophe to which civilised man is still subject. Every case is potentially a disaster either to the patient or his relatives. The family doctor is the first person to be called on for assistance and it is not sufficient that he should merely be available or even licensed

for that purpose—he must be competent personally and technically to handle the situation. Mismanagement by him or loss of confidence in him at this stage might well complicate the issue for the patient and the specialist or hospital.

A sound knowledge of medicine will help him and is very necessary, but this will not suffice by itself. He will require to inspire confidence in himself by his resourcefulness, judgment and skill in the handling of the relatives and their problems. Some people have these qualities inherently to a greater degree than others, but they can only develop fully by experience and training. This must be kept in mind in the training of the student and every opportunity must be given him to this end. He must get to know people—men, women and children of all types in the amazing width of the accepted normal. He must for this purpose have had contact with them in their homes, in church, in bars, at dances, at leisure and particularly at their work. He should have worked himself at as many kinds of jobs as possible and especially at manual labour, which brings awareness of the physical body.

How can all this be procured by, or for the student? There are jobs of all kinds available in ordinary times and most students require only encouragement and guidance towards them during their holidays. A variety of work gives a student an opportunity for recreation—in fact this is recreation, and also gives access to the intense human interest which is the leaven of the whole. Students should be encouraged to get this exercise and experience by working amongst working people—ditchers, farmers, gamekeepers, sailors, and all the natural occupations, and their relaxation in talks and discussions with men of these types, and of as wide a variety as possible. A year of service in the ranks in the Navy or Army would be invaluable, and well worth the time "lost" on it.

2. *Technical Training.*—Judged by any standard based on the statement previously made that training must have the closest relationship to the actual job—it will be found right away that the training of medical students to become doctors has become completely unbalanced. If doctors who have been in general practice, for, say, five years—i.e., men who have acquired a knowledge of their job—are asked, it will be found that almost unanimously they will agree that their training did not prepare them to the extent that it could have done for their work. The same to a lesser degree would probably be found true of specialists and consultants.

There are two main reasons for this: First: The continuation of the teaching of subjects that have outlived their usefulness either as an approach to training or in the practice of the profession, and Second: Lack of knowledge and appreciation by the university and teachers of what the practice of medicine is really like for the majority, and consequent failure on their part to co-ordinate training to that reality.

Pre-Clinical Subjects

Reflection on these two contentions justify the following observations:—

Some of the early subjects—viz., botany, zoology and physics and chemistry are taught almost in as much detail and in the same manner as 50 years ago, with an exaggerated value put on them and a disproportionate amount of time allocated to them, each professor believing that if students do not know his particular subject thoroughly, the result will be disastrous for medicine. While it may be theoretically desirable for medical students to have an intimate knowledge of botany and zoology, and for that matter, of all the other sciences, and while once there was time for acquiring this, it must now be recognised that medicine itself is being added to every year and that insistence on keeping these earlier subjects at their previous level can only result in cramming and scanty learning of the more recent facts of Medicine which the student is going to have to apply.

A sufficient standard in these subjects could be reached in school before entry into medicine and they should not be insisted on even then. Botany and zoology—sufficient to give the student a perspective of the vegetable and animal kingdoms—could be done in a few introductory lectures with a better ultimate result than the present attempts to make biologists in six months out of students. Chemistry could be simplified to a general understanding of it—not the maze of tests and reactions confusing students now. Physics require pruning in the same manner. The construction of the searchlight and the mechanics of the gyroscope belong to other technical fields than medicine, and the indigestion of the average student over them only leaves him with less actual idea of them than he could have acquired from the Encyclopaedia Britannica and will certainly not help him any in prescribing spectacles or in repairing his electrocardiograph. If he is going to do either, he

will have to start all over again and be taught by the men who do both—not by the physicists.

This is not for a moment to advocate that professional training for doctors should be cut down to the mere minimum of subjects directly essential for material success. On the contrary it is to suggest that a review of the curriculum will reveal that the earlier factual subjects are taught in too much detail and to the almost total exclusion of the more necessary and educative subjects like the psychology and management of patients, heredity, the study and treatment of early disease, minor maladies, etc.

Clinical Training

A review of the amount and degree of teaching of the essential subjects would require to be made also, and would reveal much room for improvement. After all, it must be accepted right away that any *one* of these subjects is in itself a whole time study for five years. Therefore only a part of it can be taught. At present, too much is attempted in the time, and the result is that the student knows less than if he had been given less to study. Again let it be emphasised that this is not to advocate the mere limiting of medical training to the *actual* subjects that a doctor in general practice will require. They are all necessary, but not in the detail and the presentation now practised in teaching them. More appreciation of them and a better perspective of the whole would be obtained by reducing the detail in some, by modifying others to closer relationship to the subject of the teaching and directly linking them to the actual work. The student would then realise the value of much of the material that now only serves to confuse him. Moreover the time saved is badly needed in the last two years when he is really engaged in studying the actual task that is to become his life's work.

In no part of the training is it so essential to remember what the majority are being trained for—viz., general practice—as it is in what might be termed the clinical part of the course. Here again a close study of the training will reveal many anomalies, if it is borne in mind that the training is for general practice:—

(i) Too little time available for the amount to be learnt.

(ii) Too little attention to the wide range of the normal.

(iii) Too many students at each bedside.

(iv) The wrong type of cases being used for teaching.

(v) A disproportionate amount of time given to subjects of minor importance in practice.

(vi) Academic theoretical teaching, with too little opportunity for the student to do things for himself.

Taking these in detail, the following comments may be made :—

(*a*) At present two years out of five are spent in what might be termed preparatory subjects leaving only three for clinical teaching. As mentioned already these preparatory subjects require modifying and pruning to give better appreciation of the clinical implications of them and to leave time for extra subjects gradually but constantly being introduced at the end of the course.

It must be realised that medicine is a living, developing subject and that the training for it must be fluid and adaptable—involving a change of curriculum almost yearly. This necessarily entails either reducing and modifying the preliminary subjects or extending the course. The latter may ultimately become necessary, but at present it is safe to say that the position could be improved and made satisfactory by the former.

(*b*) In the early years of training, students are taught the normal —normal anatomy, normal physiology, etc., without any correlation to the abnormal. When he starts his clinical training, the emphasis goes to the opposite. He is taught only the abnormal. The earlier teaching does not go far enough into diseased processes; the latter goes too far ahead, to the exclusion of the normal. Just as the student must know the normal human mind by making contact with people in their work and play so he must have the opportunity of getting to know the normal body before he has any hope of picking out minor or early disease.

(*c*) This excessive emphasis on the abnormal is carried into the type of cases on which students are taught. Most of the clinical teaching is done in the wards and naturally enough the cases available there are advanced ones or rarities. The result is that especially on the medical side, the teaching is largely in grossly advanced examples of disease—palpable carcinoma of the stomach, cirrhosis of the liver, chronic bronchitis with heart failure, etc., etc. Even in those, the pathology is seldom taught in its perspective. Cases are put to the students as it were to memorise—not to reason

out as pathological processes changing continually and modifying the case from day to day.

(*d*) The same criticism may be made of the teaching in surgery. The intimate steps of operations like gastrectomy are taught and insisted on in detail, while conditions that the student is certain to meet and have to handle are often relegated to "small" classes, crammed into insufficient time and with insufficient material to work on. Most final year students can detail the stages of a gastro-enterostomy but many of them have a very hazy idea only of how to incise a whitlow, or of what the drum looks like in an otitis media in a child. Students are sent out into practice well up in the details of retrograde pyelography but without having seen an early bronchitis or filled in a National Health Insurance certificate. They are trained to do test meals, but have never seen a case of mumps. This is hardly training them in the best way for the work they are going to perform.

(*e*) Students are taught too much theory and given too little responsibility and opportunity of doing things themselves. This is due to the fact that it is always easier to talk about things than to do them, and it is quicker for the expert to do the job with students watching than to give them all an opportunity of doing it themselves. Nevertheless this is not adequate teaching. Dealing mostly with advanced disease, elaborate investigations are conducted, most of which cannot be carried out by the doctor in practice and the results of which are often of little or no significance in the conduct of the case even if they were done.

(*f*) At present students are handled in groups of tens and twenties by certain selected teachers, many of whom have no gifts and no training for teaching, who have only a limited time for it and who deal with a limited range of advanced cases of diseases.

Teaching hospitals have two functions—(*a*) The treatment of patients, and (*b*) Affording students every facility and opportunity of learning their work.

What students, especially in their final year, require most, is cases to handle themselves—not demonstration by someone else doing them. It is better to have ten or fifteen cases each to deal with than to have ten or fifteen students round each case, even with a capable demonstrator. More hospitals would be required for this and more teachers—but a greater variety of cases would thus be available to students and a wider range of teaching assured.

Conclusions

Perhaps the most serious discrepancies in the present system between the training of students and the realities of practice, lie in the following omissions:—

Students receive a totally inadequate experience of minor ailments and of the very early manifestations of acute diseases. Actually this is the type of work that constitutes the major portion of general practice and skill and experience are required for it. At present young doctors have to acquire their experience of it after graduation. Most of the cases of this kind never reach the hospital wards unless they go wrong, by which time the early signs are gone or modified. The result is that the young doctor either does not know what is wrong or assumes there is nothing wrong with a case unless it has the signs of advanced or textbook disease. It is not too much to say that teaching hospitals, if they are to reserve to themselves the monopoly of teaching students throughout the whole of their course, must enlarge their out-patient departments and the staff in them to such a degree that the bulk of the clinical teaching is shifted to these from the wards. After all, it is here that the typical general practice cases come, and the majority of the students are being trained for general practice. Why therefore cram this part of the teaching on to juniors in spare afternoons while the main part of the day is taken up by senior staff demonstrating operations and techniques that the students are never themselves going to put into execution.

As well as adequate teaching in out-patient departments on early cases, areas would require to be set out, if necessary by arrangement with the regular practitioners therein—to which students could go on visits to patients in their own homes. A few beds could be allocated for the purpose of admission of some of these by the students direct for observation and treatment, when they considered this necessary. There would be no great organisation required for this—merely an intelligent appreciation of the importance of students being taught their actual work and of building up their confidence in themselves.

After graduation each doctor should have one year's apprenticeship in practice. Again—once the need for this is appreciated, and all practitioners and indeed graduates would agree to it now—there would be no great difficulty in arranging it. The better type of

general practitioner would welcome it, and each university would soon begin to build up a list of the men competent to take juniors. For men who are going to specialise, this year would of course count as one of the three they had to do before starting their speciality.

It has been contended throughout these observations that modifications could be, and should be made in the teaching of doctors to bring the training nearer to the reality. An attempt has been made to show some of the points at which divergence has occurred. The most essential and obvious step however to rectify the position, is to institute a class in general practice during the fourth and final years.

Without attempting a close detail, the object of this class would be to correlate the academic and hospital viewpoint of the present system to the needs of general practice; to fill in the gaps left in teaching and bring the loose ends into their application to practice, and to give students a sketch of what general practice is and how it can best be conducted. There are many omissions requiring attention—early and minor disease, dispensing and ordering of drugs, books and instruments, National Health Insurance and certification, to mention only a few.

The lecturer responsible for these classes would also act as liaison officer between practitioners in the university area and the teaching centre. At present the majority of doctors lose all contact with their own, or indeed any university, soon after graduation.

III. SOCIAL MEDICINE AND GENERAL PRACTICE

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" Imagine human beings living in an underground den which is open towards the light: they have been there from childhood, having their necks and legs chained, and can only see into the den. At a distance there is a fire, and between the fire and the prisoner a raised way, like the screen over which marionette players show their puppets. Behind the wall appear moving figures, and among them images of men and animals, wood and stone, and some of the passers-by are talking and others silent. ' A strange parable,' he said, ' and strange captives.' They are ourselves, I replied; and they see only the shadows of the images which the fire throws on the wall of the den; to these they give names, and if we add an echo which returns from the wall, the voices of the passengers will seem to proceed from the shadows. Suppose now that you suddenly turn them round and make them look with pain and grief to themselves at the real images; will they believe them to be real? Will not their eyes be dazzled, and will they not try to get away from the light to something which they are able to behold without blinking? . . "*

Medical training has become imprisoned not in an underground den but in the shining surroundings of the hospital. Problems of health and disease in the world outside must be interpreted there from shadows on the wall, whispers, and second-hand reports. Social medicine sets itself the task of leading the prisoner out of the cave.

Social medicine has been defined as " the application of medicine to man in his environment, that is against the background of his home as a dwelling, his family, his food, and his work and play." The attitude of mind which lies behind this conception is as ancient as the practice of medicine itself, for amongst other things, medicine has always been a social art. Social medicine in fact expresses a a point of view which has always permeated and informed the attitude of the good doctor. This is especially true of the general practitioner, for the problems and triumphs of general practice

* *The Republic of Plato.* Book VII. Translated by B. Jowett, M.A., pp. xcviii-xcix.

are perhaps more often related to the social, economic and family circumstances of the patients than to purely clinical difficulties. The general practitioner is in fact the principal exponent of social medicine in the field, and this is at once the joy and the nightmare of general practice. There is continual interest for the man who recognises that the real task of general practice lies in the promotion of health and in the prevention and cure of ill-health within the natural environment of family and community life. But there is constant frustration for the doctor whose training has moulded him to the view that the problems of disease must always be considered in isolation from the surroundings where they occurred—for the surroundings will always intrude to thwart his efforts to recreate the artificial conditions of the hospital ward.

Importance of the Social Background

The best clinical teachers have always found time to call attention to the importance of the social background of their patients, and they can teach certain lessons of social medicine more strikingly than anybody else; but in the past the medical curriculum has left this teaching too much to chance. There is a depressingly long array of subjects which are candidates for the attention of the medical student during his training. New discoveries of scientific clinical medicine were so rapid and dramatic during the last fifty years that the technical approach to medicine has been given pride of place to the almost total exclusion of the social approach. The time has now come to strike a balance, and to realise that there are many problems which face the doctor to which clinical science gives a partial answer only or sometimes no answer at all. In medical training it has sometimes been as though Mother Church, when sending a man to the mission field in Darkest Africa, has trained him only in the finest points of theology, while omitting altogether to discuss the people he would meet in his new parish, their beliefs and habits, and their occasional primitive urge to eat missionaries.

A brief historical review of the changing attitudes of the medical profession towards the social background in medicine will serve to explain the need today to revive and develop an ancient interest. Medicine, despite—or perhaps because of—its brilliant progress in recent times, must be called back to a more social orientation. That is the task of social medicine.

The start of medicine as a learned profession dates from about the beginning of the 18th century. For it was about that time that it really began to emerge from the age of darkness and superstition and to set its house in order so far as methods of study and training were concerned. At this time began the great era of clinical investigation into the natural history of disease, which followed upon the tradition established by Sydenham in the previous century. This epoch of medical practice lasted till about the middle of the 19th century. It was characterized by almost total ignorance of the true causation of disease, in contrast to its detailed knowledge of the situations favoured by epidemic disease and the relation to them of environmental factors. The doctors of the time certainly had unique opportunities for study of epidemic disease, for this was the age when typhus was the great scourge of the common people especially in the towns into which they crowded increasingly into the second half of the century to man the growing industries. At the same time smallpox ravaged the child population especially of the poorest classes. To a profession expert in the study of the natural history of disease, the associations of disease at this time with social circumstances were only too clear. Destitution, misery, and the squalor of gross overcrowding were clearly apparent as associations of " the Fever," as typhus was called.

Completely lacking as they were in a science of medicine to tell them the true causes of disease and to discover effective means of treatment, it is scarcely surprising that the attention of the medical men of the day concentrated upon the social associations of disease which they could recognise and which were crying out for a remedy. This was in fact an age of social pioneering and philanthropy for the medical profession. There was no ivory tower of scientific detachment for these men who were in the forefront of the great movement to establish hospitals and dispensaries—most of our famous hospitals date from this period—where medical attention could be given to the great mass of sick poor. Medical men were in the vanguard of movements to root out the worst abuses of the Industrial Revolution. The great hospitals and dispensaries which they had established played a main part in stemming the tide of disease which threatened to overwhelm the new industrial communities. These institutions felt and accepted a responsibility for the sick of their community not merely within their own wards but in their homes.

Allowances for the Patients' Family

Thus the Director of the Royal Infirmary of Glasgow decided to open a permanent Fever House because, they stated, " In this large city typhus fever must be at all times liable to occur, and in the narrow and crowded vennels and wynds it must be frequently apt to break out with virulence so as to endanger the whole town."* A similar example of the sense of community responsibility shown by these hospitals comes from Edinburgh. It was felt to be important to get all cases of fever into hospital, yet there was often grave reluctance to go into hospital because the infected wage-earner knew that he left his family destitute. It was said at the time that to overcome the reluctance " it has generally been found sufficient to defray all expenses of the removal (to hospital)—to furnish a recommendation to the hospital and to make a regular weekly allowance to the family of the patient during his illness."† The idea of maintaining the family while the wage-earner is in hospital is surely a highly social one, and has only recently been revived by the modern system of tuberculosis allowances.

Here then is a picture of a medical profession socially informed and active; a profession where every physician was of necessity a specialist in fevers, and where every specialist in fevers was of necessity aware of the importance of social circumstances in the production of disease. Yet the profession was almost completely lacking in scientific weapons with which to attack disease, and their views on causation were at best shrewd deductions from the facts, and at worst a tissue of phantasies and superstitions, of miasmata and humours.

The great emergence of modern scientific medicine began about the year 1850. Close around that time took place such epoch-making events as the first developments in the use of anaesthetics, the early work of Claud Bernard with his conception of the constancy of the internal environment, and the work of Pasteur, Koch and Lister in bacteriology and its early applications. Probably the most far-reaching of the advances was that which began in bacteriology about 1880, for more than any science at that time it inspired medicine with a new spirit. Contrast against the dark background of the centuries of ignorance, the discovery of the causative germs

* Bell and Paton. " Glasgow—its Municipal Organization and Administration," p. 181.

† W. P. Alison: *Medical Jurisprudence*, M.S. Lectures 1821, pp. 45-49.

of a dozen specific diseases within the space of a generation. Between 1879 and 1898 the organisms of anthrax, gonorrhea, sepsis, malaria, typhoid, tuberculosis, glanders, cholera, rabies, tetanus, pneumonia, meningitis, plague and dysentery were discovered. The production of specific preventives such as vaccines against cholera and typhoid during that same period was perhaps even more revolutionary. Tremendous advances were starting in other fields: X-rays were discovered by Röntgen in 1893: in 1902 the Curies discovered radium; in 1909 Ehrlich produced salvarsan, and opened a great vista of fresh territory for exploration.*

By the beginning of this century a whole new world of medical thought had been created. Can it be wondered at if all resources were mobilized to exploit these tremendous advances? The new scientific medicine yielded obvious concrete benefits to mankind; with so much work to be done in this field, it is scarcely surprising that the main body of organized medicine lost interest in the much vaguer implications of social backgrounds and causes. This was the more likely to happen because in the meantime economic and sanitary advances in the country had removed many of the worst circumstances against which medical men had previously fought. In a sense, social environment had retired from a very prominent place in the foreground in medical events to a situation in the background where although still important, its influence might too easily be overlooked. It is true of course that many doctors retained a vital and active interest in this sphere; and *pari passu* with these other developments in medicine, the devotees of hygiene and medical statistics were working out new and far more sensitive methods of essaying the effects of social and economic causes than had existed before. Nevertheless specialization in public health had certain dangerous effects, for by handing a slice of social medicine to one group of doctors as a somewhat detached speciality it became easier for the rest of the profession to shelve some of their social responsibilities.

Isolation of Clinical Problems

The trend of scientific medicine was more and more towards isolation of the clinical problem for the purposes of study. In the realm of clinical medicine attention was concentrated upon accurate diagnosis and clinical treatment to the exclusion of other factors.

* Sir George Newman, *The Building of a Nation's Health*, London, 1939, pp. 32–33.

And, let there be no doubt about it, this method of concentrating attention paid, and paid big dividends in terms of new knowledge and progress.

But there were disadvantages. The sick person became a case to be scientifically labelled and physicked, and to some extent ceased to be an individual with highly personal needs, and a social background and long-term requirements. The teaching hospitals were the laboratories in which this work was done—and great work it was; but in the process they tended to lose some of that wide sense of interest in the community which they had had. The care of infectious fevers which had previously forced their interest in social conditions, had been taken over by special isolation hospitals established by the municipal authorities. The case of the chronic sick was regarded as a tiresome distraction by those hot in the pursuit of acute illness and was shelved to other more lowly institutions. Technical knowledge regarding certain aspects of acute disease grew rapidly in the teaching hospitals; but that was, after all, only a part of the health problem facing the community; there were other important responsibilities regarding which these hospitals showed unawareness, or tendency to evade the issue. There was also a certain blindness to responsibilities to the patient beyond his immediate cure.

This was the machinery which formed the doctor and shaped his mind to an implicit belief in the complete effectiveness of scientific medicine. The interest of the student was focussed upon the sick man in a hospital bed. But little attention was paid to the patient as an individual whose disease process and future needs were shaped by his individual background. And when the patient got on to his feet again, interest in him rapidly waned: little attention was paid to the problem of convalescence or his physical or mental rehabilitation.

When the new doctor eventually appeared in the world outside the hospital walls and settled to his litework he must sometimes have wondered what was the connection, if any, between scientific medicine as taught inside the ivory tower and the medley of assorted problems which provided the headaches of daily practice. He had been trained to isolate the clinical problem for accurate study. But in practice he found that ill-health could almost never be accurately studied in isolation from the social conditions in which it arose. How often in fact can it be said that disease processes are in no way linked with social conditions? Even where causation is believed to

be clear from this linkage, the particular manifestations and effects of disease in an individual and the extent to which he is able to make full use of modern therapy are close bound with such factors as his social circumstances, the standard of his education, his character and intelligence. We know that health in infancy is largely determined by the quality of the home surroundings and the training and efficiency of the mother. We know that in the acute infections of childhood the age of incidence is all important; the younger the age incidence the more damaging is the infection, and early age incidence is often a product of bad housing conditions. More than half the deaths in adolescence are due to tuberculosis, and we know that consideration of this infection cannot be divorced from social factors. We know rheumatism and rheumatic heart disease, which is such a frequent cause of death in young adult life, are close-linked with poverty. The gastric disease of adult life is often related to occupation and economic conditions. At all ages disease processes are tied up with environmental conditions.

In fact the doctor freshly established in general practice may find that his difficulty is to prevent the clinical needs of his patients from being swamped by social circumstances. How is he to secure any sort of satisfactory recovery for the slum child ravaged by whooping cough or measles? What is the doctor to do when the wage-earner in whom he has diagnosed early tubercle refuses treatment because he will not deprive his wife and family of his wages? What can he do for the great and increasing army of lonely aged people when they fall sick?

The training of the doctor must be adjusted to prepare him better to meet these difficulties, not only so that he can recognise them and deal with them, but so that he can appreciate that some of the most valuable work of general practice is in this sphere.

The Crisis in General Practice

General practice is the foundation of a National Health Service. Much of the success of the Health Service will depend on the quality of its general practice, and this in turn depends upon the quality of the men who do the work and upon conditions of work which permit them a sense of achievement and satisfaction. There is a crisis in general practice to-day. Réné Sand* has reminded us that this crisis is neither recent in origin nor confined to one country;

* René Sand. *Vers la Médecine Sociale*, Paris 1948, pp. 68-72.

it is certainly not the product of recent legislative changes in the administrative structure of general practice in the United Kingdom, although these changes may bring the crisis to a head. The real menace to quality of practice today is neither the capitation fee nor the grossly inflated list of patients. It is loss of a sense of pride in their work which seriously afflicts many men in general practice. As students and housemen they have been taught to give their interest and loyalty to the diagnosis and treatment of clinical disease with the aid of all the available resources of clinical science. Fifty years or even twenty years ago it was possible for the general practitioner to carry on conscientiously the sort of work he had learnt in hospital. But in recent years increasing specialization has meant that many of the jobs which the doctor had learnt to regard as the very essence of good general practice are being taken from him. The general practitioner to-day must think seriously before he decides to treat a fracture in his own surgery; even infections of the hand, at one time regarded as an ideal field for minor surgery in general practice, are now recognized to be of such potential seriousness as a source of loss of time and disability that they too should, if possible, be dealt with inside a special clinic. Modern technical procedures of diagnosis and treatment yield their best results in specialist hands. But there is a danger that the general practitioner who loses interesting fields of work to the specialist, may come to believe in a conspiracy to reduce his surgery to a sorting office, and the loss of interest and sense of disgruntlement which result do not make for the best doctoring.

Meantime the general practitioner remains in a unique position to help the people in his care. It is by his knowledge of the social, economic, intellectual and emotional background of his patients that he, more than anybody else, is in a position to act to promote health, to prevent disease, to sort out and deal with environmental factors which may cause disease or hinder adequate measures of treatment and rehabilitation. But unless the future practitioner is taught this during the impressionable years of his training he may regard the social medicine of general practice as an inferior substitute for the ideal of "real" medicine which he has formed during his hospital training. Clinical teachers carry a heavy responsibility here, if they are not careful they may breed disillusionment by building in the student's mind an ideal of medicine in terms of the hospital ward which he cannot fulfil in practice, while leaving the student

blind to the great opportunities for work and interest which are unique to general practice.

The gulf between hospital medicine and medicine outside is widening. Yet the hospital remains the sole scene of medical training although there are many problems of individual and community health with which the hospital cannot deal. There is need to extend the training ground to give the medical student a view of health problems in the world outside the hospital walls. This must be one of the functions of social medicine which can send men to general practice with a truer conception of what their work will be. This will be a good start to ending the dilemma of general practice.

The Interests of Social Medicine

Many tributaries have contributed to the main stream of interest in social medicine. The belief in the importance of the social background of the individual has always remained strong for many clinicians. Hospitals which had cut themselves off from the communities they served felt the need to re-establish some link. The result has been the creation of the Almoner's Office and the growth of a profession of almoners to establish an intelligence service bringing news from the outside world of social problems which might delay a patient's recovery or undo the work of the hospital upon his return home. Almoners in their turn have had an effect in reminding their fellow workers in the hospital that the patient is a person with a home, a family, and a job of work all of which may be of the utmost importance in the study of his health. Clinicians are beginning to ask the help of the almoner in the teaching of medical students, in an attempt to lay before the student the whole problem of the patient against his natural social background.

Investigation of the problems of certain groups of special interest to the medical profession, has forced a study of social factors which must be taken into account if the health problem under consideration is to be solved. The health services of local authorities, such as the tuberculosis services, the maternity and child-welfare services, the school medical service have fostered the belief in the importance of family and community life, not only in the treatment and prevention of disease but in the culture of health. Growing interest in child health taught the paediatrician that he could never consider a child in isolation from the physical and emotional environment in

his home, the qualities of his parents, the effects of school and neighbourhood. At the other end of the age scale, the pressure of population trends towards an ageing population has forced attention on the problems of the aged, where sickness is so often the product of defects in the social background, such as lack of simple care and supervision; or even sheer loneliness.

Interest in the fate of the patient after he leaves hospital has increased in recent times to counterbalance past neglect in this field. Rehabilitation, which sets its target far beyond the original objective of getting the patient out of hospital, on to the point where the man is back, fully fit, at his job of work, or the woman in her home, necessarily must deal in social as well as occupational therapy, for many of the obstacles to sound recovery lie in the social background.

New interest in the promotion of health as opposed to the treatment of disease points the way to a tremendous and scarcely explored field for doctors. The National Health Service Act of 1946 itself lays upon the Minister of Health the duty of providing a health service " to secure improvement in the physical and mental health of the people. . . " Promotion of health must depend upon the discovery and removal of the causes of disharmony between the individual or the community and their social backgrounds.

Renewed interest in the importance of the interaction between mind and body in determining health leads doctors irresistably to the social field. Psychosomatic medicine which studies the effects of emotional disturbance on physical health must go to the social environment to discover the cause of emotional disturbance. Indeed in a period of rapid change in social patterns such as the present, many of the supporting walls of tradition and ordered habit which protect the personalities of those who shelter within them are broken down, and increased incidence of mental illness becomes certain. As the graver abuses of the physical environment are removed, the social background will more and more play its part through the influence which it has upon mental health. Social medicine may find its biggest task in the field of mental health.

Professor Ryle says of social medicine that " it embraces, on the one hand, the whole of the activities of the public health administration and of the remedial and allied social services, and, on the other, the special disciplines necessary for the advancement of knowledge relating to sickness and health in the community."*

* John A. Ryle, *Changing Disciplines*, London, 1948, p. 2.

Social medicine must never rest content to teach and plan only on the basis of existing knowledge of the effects of social factors upon health; existing knowledge is slender, in fact there is often little more than a hunch on which to base our actions. The first step is to develop methods of research which will permit the definition and study of problems of health in the social environment and social medicine has been able to call to its aid methods already well developed in other fields. The analysis of mortality statistics had already been made to yield information of the utmost relevance to social medicine. The study of morbidity statistics is only in its infancy,but it must be developed as a means of measuring the problems with which social medicine will have to deal. Social medicine is particularly interested in the problems of disease and health as they affect the group and the society. It has turned for inspiration to epidemiology which has already widened its scope from the study of certain infectious fevers to embrace all forms of disease and hazard which affect mankind in the herd.

Social medicine has developed its conception of a social pathology. These should, "as their names suggest, be considered respectively as the medicine and pathology of families, groups, societies or larger populations. Just as human pathology is the related science of clinical medicine—so may social pathology be viewed as the related science of social medicine, whether it be pursued in the office of the statistician or with the aid of sociomedical surveys or experiments, or of other more intimate and specific types of enquiry."*

Teaching of Social Medicine

There has been a rapid development of interest in the conception of social medicine since the name was revivied a few years ago; this has progressed side by side with the active discussion on social reform and the plans for a National Health Service which went on throughout and after the war years. This rise of interest has coincided with a period when the reform of the medical teaching curriculum was under official consideration, with the result that a special committee of the Royal College of Physicians in 1943 and the Goodenough Committee in 1944 emphasised the need to develop the teaching of social medicine in all medical schools.

A number of medical schools have advanced a considerable way towards implementing these recommendations, others have started

* John A. Ryle, *op. cit.*, p. 1.

to move in this direction—but there are a few who appear to have heard of neither social medicine nor the Goodenough Report. The more progressive schools show a broad similarity in the aims and methods of teaching. Lecture instruction has extended the old courses of instruction in public health and hygiene to include the concepts of social medicine. An attempt is made to study the problems of health and disease in the group as well as in the individual, and the need to test conclusions by quantitative measurement is taught by simple exercises in medical statistics. The teacher of social medicine should make first contact with the student as early as possible in his career, so that the student may be shown the wider horizons of the social environment before his vision is confined in the hospital ward; if possible some contact should be maintained throughout the student's career. The theory taught in lectures can be illustrated by demonstrations and visits to health clinics, housing estates, different types of industry, and so on. The case conference is used to teach ideas of social medicine on the ground where the medical student is most susceptible to teaching, that is round the patient in hospital. Here the social background of the patient is studied by clinicans, teacher of social medicine, almoner, and students to discover or exclude any factors which may have caused or aggravated the disease, or which are likely to prevent a sound recovery; and the various social and public health agencies which can help the doctor to implement his treatment are also considered. The importance of teaching social medicine outside the hospital wards is recognized: it is probable that in the future health centres will be used for this purpose.

Progress has been made and something has been done in a short space of time to find a niche for social medicine in the established curriculum. Yet even in the most advanced schools the lessons of social medicine cannot yet be put across to the student as they should. Within the existing curriculum and examination system, the weight of established clinical tradition is too strong to permit any but a most exceptional student to see their importance; to the average student social medicine remains a side issue, however amusing. Only a drastic readjustment of medical training away from purely hospital medicine, and a recognition of the real problems which will face the average doctor in practice will ever make it possible to arouse the full interest of the student in the subject which he will in all probability practice for the rest of his days.

IV. THE MEDICAL CURRICULUM

By J. M. Mackintosh

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Most of those who have written in recent years on the subject of medical education have expressed uneasy feelings that something is amiss. Since 1934, when a report was issued by the British Medical Association, a number of committees whose members were chosen because of their knowledge of the subject have recommended more or less drastic changes in the method and content of training for the profession of medicine. The comments presented in this essay do not challenge the main findings of these committees, on which almost universal agreement has been disclosed, but here and there they cast an oblique light upon them.

It often happens that in times of stress and anxiety men and women turn their faces to the future and plan eagerly for a better world. So it was with Great Britain in the overcast days of 1942, when far-reaching schemes for national health and security were formulated. In the little world of medical education a similar process took place. As early as March, 1942, the Minister of Health and the Secretary of State for Scotland appointed an inter-departmental committee to enquire into the organization of medical schools, particularly in regard to facilities for clinical teaching and research. The Goodenough Committee (as it has been called, after its chairman) covered in its enquiries a wide area of administration and finance, and it is a document of permanent value. The progress of its main findings has been followed by Mr. Farrer-Brown in his contribution to this issue. The Goodenough Committee also advised that improvement in the organization of the medical schools and teaching hospitals must be accompanied by a thorough overhaul of the medical curriculum. It gave careful consideration to the principles that ought to be followed in devising a new curriculum, and laid special emphasis on social medicine and psychiatry; but it did not enter into the details of a syllabus.

During the war period the Royal College of Physicians appointed a series of committees to review the various aspects of medical education, including social and preventive medicine and psychiatry. The first report was issued in March, 1943, by the committee on

social and preventive medicine, which subsequently published interim reports on industrial health, and on the student health service. This group of reports formed an advance guard of thought on many aspects of medical education.

In 1945 the British Medical Association appointed a committee under the chairmanship of Sir Henry Cohen "to review the Association's Report on Medical Education (1934) in the light of later developments and the requirements of modern practice." This committee reported in 1948, confirming in general the opinions expressed by its predecessors, and indeed reinforcing them in strong terms:—

> "The Committee has learned that there is universal agreement that reform of the medical curriculum is both a compelling and an urgent need."

It is hardly necessary to refer in detail to the points on which there is general agreement, but further consideration must be given to views on which the Cohen Committee has diverged substantially from its forerunners. The Goodenough Committee had come to the conclusion that "the type of instruction and the relative importance attached to various subjects should have a definite bias towards the needs of the future general practitioner." The Cohen Committee, on the other hand, made the following comment:—

> "General practice is a special form of practice which must be founded on general basic principles and appropriate post-graduate study."

The committee therefore urged that the undergraduate course should be primarily concerned with training in those basic principles of medicine which are a necessary foundation for all forms of medical practice. This difference is fundamental. It serves to throw into sharper relief the points on which there is agreement:—

1. When new knowledge and technical developments demand admission to the medical curriculum, they are too often accommodated by a process of accretion—a further course is added to the already overcrowded syllabus . . . and too many topics of little value remain shackled to the curriculum by the fetters of tradition.

2. The curriculum is so compartmental that it lacks continuity and coherence.

3. The tendency of the curriculum is to force the student to memorize a mass of detail without any appreciation of the underlying principles. The student has no time to think for himself or to integrate his knowledge.

4. The various medical departments are so isolated that syllabuses are often constructed without reference to one another.

The medical course may now be considered in the light of the findings of the Cohen Committee:—

Pre-Medical Education

The Committee, unlike its predecessors, deals comprehensively with pre-medical education. It reinforces the view, now widely accepted, that specialization in school, which creates a vocational bias from an early age, is to be condemned. The inclusion of a general course in science is rightly commended, but only as a cultural subject on an equal footing with literature and language. In this respect the Goodenough Committee, while agreeing that school teaching should be non-vocational, suggests that the student coming up from school with a good grounding in general science will need relatively little physics, chemistry, and biology in his medical course. It has even been recommended that the student who has passed appropriate science examinations in school should be exempted from the study of the basic sciences in the university. The Cohen Committee dissents vigorously from this, on two main grounds: first, that the adolescent needs all the time he can spare in school life to get the benefits of a liberal education; and secondly, that the medical student in his first year requires a thorough training in the methodology of science—which can be obtained only at a university standard and in a university atmosphere.

The two elements in this disagreement deserve further examination. One party is inclined to believe that university teaching differs only in time and place, and not in essence, from school teaching; that it is of no great moment, and really a matter of administrative convenience, whether a particular course is taken at school or in the university. The other party holds that the university opens the doors to a new world of learning, broadly cultural in its atmosphere, and yet vocational in the sense that the student has an opportunity to sketch out the general plan of his career and to work consciously towards that goal. The school teacher has usually been a pawn in the examination game for entry to the university,

and has been forced to narrow his own teaching into the channel of mere cramming. His position is at its worst, when the university demands that entrants to its medical school shall have passed a "pre-registration" examination in the sciences. The good school curriculum is broad and general, for its aim is to lay the foundations for a liberal education. A university which encourages specialization at school is denying its future alumni the very possibility of a good education. It would be far better, indeed, if some of the school subjects such as literature and language were continued into the first university year.

There is a second matter on which the Cohen Committee lays a just emphasis: the sciences of physics, chemistry, and biology ought certainly to be introduced into the school curriculum as part of general culture, but for the medical student these disciplines carry the instruments which he will subsequently use in the study of man's structure and function. As the Committee says: "the fundamental purpose of the course in the basic sciences is to teach scientific method and to inculcate habits of clear and logical thinking. The scientific approach should be deliberately taught; it cannot be acquired as a by-product of factual instruction. This involves the training of the student in the importance of unprejudiced observation and of controlled experiment, in the evaluation of evidence and in the role of techniques and their limitations."

This type of training is clearly not the function of the school teacher, however well-informed he may be. From the nature of his work it is unlikely that he can devote time to research, and he is therefore dealing with established knowledge and imparting it broadly rather than in depth. The university professor, on the other hand, should be a man of outstanding ability and qualification who is in the vanguard of his own subject. His whole department should be attuned to scientific teaching at the university level.

The Pre-Medical Year

In the first year at the university the principal subjects are physics, chemistry, and biology. The old cleavage between botany and zoology is abandoned, and the Committee includes organic chemistry in the first year course on the logical ground that it is a proper base for physiology in the second year. The Goodenough Committee had recommended that the basic sciences should be taught in association with anatomy and physiology. The Cohen Committee

rejects this on the ground that it destroys the logical order of study. The teacher of physiology, they say, would have to be constantly referring back to, and possibly expounding, unrelated items in physics, chemistry and biology that may be necessary to the understanding of a particular problem. By way of illustration the Committee refers to chapters on the circulation of the blood in Best and Taylor's *Physiological Basis of Medical Practice*. This must be quoted in full, because it seems to represent the Committee's idea of teaching the basic sciences to first year medical students—boys and girls of about eighteen years who wish to become doctors:—

"It is here seen that, in sequence, the physics and chemistry involved in an understanding of the physiology are:—

(i) The principles governing the flow of a liquid through a system of tubes of varying diameter.

(ii) The energy expenditure calculated from oxygen consumption leading to the formula

$$W = 7/6\ QR + \frac{7\ mV^2}{g}$$

(iii) Experimental principles involved in recording blood pressure.

(iv) The effects of viscosity and elastic-walled tubes on the pressure within and outflow from the tubes.

(v) The use of thermocouples in determining the velocity of the blood.

(vi) The principles involved in Stewart's calorimetric method for the measurement of volume flow through the human hand.

(vii) Wave mechanics in relation to the propagation of the pulse wave.

(viii) Electrical recordings and the principles underlying the electrocardiogram, electrical axis of the heart, electrophonograms, and others.

(ix) The principles of the optical manometer for registering intracardiac pressure."

Surely this is going back to the sciences with a vengeance. It adds a touch of irony, when the Committee says in the same chapter that the study of statistics should commence in the first year, and that one of the serious defects in the existing curriculum at many of the medical schools is the failure to allow the student time and opportunity for reflection and discussion.

The Pre-Clinical Period

The arrangements proposed for this period of fifteen months' study illustrate perfectly the logical order that is characteristic of

the Cohen report. The time available is to be devoted to the study of the normal man—the mind and its processes, and the structure of the body in relation to its functions. By this means anatomy and histology, physiology and biochemistry are woven together to form a real pattern on the ground of the basic sciences. The syllabus in psychology—an important adventure in medical education—is linked closely with the other pre-clinical subjects, its aim being "first, to convince the student of the essential place of mental processes in his general study of the normal structure and function of man; secondly, to equip the student with standards of reference against which he may assess the deviations from normal which he will find in his clinical studies and practice; and thirdly, to provide him with a basis for the rational appreciation of the doctor-patient relationship."

This admirable synthesis is designed to occupy four terms of thirteen weeks each and a month blatantly stolen from the Summer vacation—an actual teaching period of fifty-six weeks in fifteen calendar months. It would be hard to envisage a more complete course of study for the first two and a half years of the young student's university career. Elsewhere the Committee recommends that after the first year and again after the second year there should be a ruthless weeding out of those found unsuitable.

The Clinical Period

The hardy survivors now pass into the relative calm of clinical medicine. The Cohen Committee points out that, although many committees and individuals have recommended adjustments to the medical course, none of these has really modified the essential fabric of the clinical curriculum. "Recommendations merely to teach less detail and to include psychology and social medicine in the syllabus, and to follow the qualifying examination by a compulsory internship before registration—which is in effect practically all that most of the reforms recently advocated amount to—will not by themselves remedy a system of medical education which is, from the outset, wrongly conceived."

With this rather strongly worded introduction the Committee proposes a drastic overhaul of the accepted clinical training. The proposals involve a new approach, based on the conception of disease as a disturbance or disequilibrium in the structure and functioning of the organism. The far-reaching implication of this

concept is that medicine should not be taught sectionally, but as whole in articulation with its parts. The student has to learn that medicine is one and indivisible, with the specialties as aids to diagnosis and treatment. The traditional curriculum of the clinical period consists of separate, and generally disconnected, courses on every conceivable subject that can be attached to the student's train-load. Each new advance in medicine, every technical refinement, is commonly an excuse for throwing in an additional load. The faults of such a system are plain enough: the student never sees his patient as a person; he sees only the diseases by which the patient is labelled. Yet one body after another has urged in vain that the general purpose of medical education is not the acquisition of knowledge about diseases; it is, as the Committee explains, "to teach the student the general principles of medicine, to train him to a sufficient degree of skill to diagnose and treat common ailments in minor medicine and surgery, to recognise conditions for which he should summon expert help, and so to orientate his attitude to medicine that he sees his patient as a whole." The Committee believes that, if sound foundations are laid for any career in medicine, the superstructure of general practice or any other specialty can be raised without imposing strains.

The proposals are, in brief, to offer first an "orientation" course of six months, and follow this with short and limited courses dealing mainly with the scope and potentialities of diagnosis and treatment in those specialties which have highly expert techniques, as, for example, plastic surgery. This can best be done by including the special subjects in the main course—in this case, surgery—even when they are expounded by specialists. And so with the major subject of general medicine, with its train of stars. Other subjects which are confined to a particular aspect of medicine, such as public health, social medicine, and forensic medicine, should be fitted into the course in general medicine and taught in relation to the wider field. This is the only real way of securing integration and balance from year to year, and the Professor of Medicine should be chairman of a standing committee appointed to keep under review the curriculum as a whole.

The Committee examine carefully the common criticism that, although the majority of students are destined to become general practitioners, they are taught in their undergraduate days by consultants and specialists, and are thus given a false perspective

of the conditions of practice. They agree that cases for demonstration should be drawn from the ordinary cases met with in general practice rather than from cases in which the teacher is personally interested. Rare cases have their place in teaching, but an infiltration of the ordinary would give the student a better sense of proportion.

A number of critics suggest that general practitioners should be engaged in teaching students, to counteract the lack of balance inherent in teaching by consultants and specialists. This could be accomplished either by bringing suitable general practitioners into the teaching wards of hospitals, presumably as clinical assistants, or by sending the students in penny numbers to accompany general practitioners on their rounds. The Committee bring forward a suspiciously large number of reasons for rejecting both plans.

On the first proposal they admit that there are advantages, but they throw into the other pan of the scales a number of arguments: that it would be very difficult to achieve the end because (*a*) the present generation of general practitioners has been educated in the consultant atmosphere: (but surely, if an idea is good, one must make a beginning somewhere); (*b*) it may be difficult to find a sufficient number of really suitable general practitioners who have developed the broad outlook desired (but we have just complained that the viewpoint of consultants is too narrow) and (*c*) who have the ability and inclination to teach—(yes, but why not try?). (*d*) It might also be found that the general practitioners not attached to the teaching hospital would be reluctant to send patients to an out-patient department in which they would be seen by another general practitioner practising in the same area. Yet the Committee has only just told us that:

"Some older men still in practice can remember being taught by teachers who, outside the medical school, were general practitioners. Such a teacher was usually a consulting general physician of the best type who had a practical knowledge of the whole range of medicine, and who treated patients not only in hospital but in their own homes. His teaching followed the lines of his practice; he brought to his students the right attitude of mind in the prevention, diagnosis, and treatment of disease and the habit of regarding the patient and his environment as a whole."

"In any case," the Committee concludes, "such appointments would not achieve the main object of the critics, which is to instruct the student in the commoner ailments and the methods of domiciliary

practice." One is reminded of Landor's line "For reasons not to love him once I sought."

The practical difficulties in the way of the second proposal are insuperable, and in any case the apprenticeship system is more appropriate for the young graduate than for the student. The proposal that there should be a year's work between qualification and registration might meet this difficulty.

The Medical Curriculum and the Student

All critics of the medical curriculum realise that the present course is overcrowded with detail, badly integrated, and unshapely in its proportions. The earlier committees were content to reduce the quantity of facts poured into the student from all sides, and the Goodenough Committee, in particular, makes reference to the health, recreation, and housing of students. The idea of a student health service has been widely canvassed and is now widely accepted. In fact, there is no lack of interest in the medical student. The Cohen Committee goes out of its way to make sympathetic references to his needs, for example:—

> "If the student is to develop a coherent view of general medicine, he must be allowed to synthesize and organize his knowledge as he acquires it, and he must have time for reflection." (C. 275.)

Again, a paragraph is devoted to the use of the library, and the stimulus afforded by independent reading. (C. 92.)

And once more:

> "One of the serious defects of the curriculum at many of the medical schools today is the failure to allow the student time and opportunity for reflection and discussion."

It is clear that the Cohen Committee has given a great deal of thought and understanding to the welfare of the student. It has had the grace to allot him an eight weeks' vacation during each of the three clinical years, in addition to shorter holidays at Christmas and Easter. These arrangements are far more kindly than the rigours imposed on students and staff by the Goodenough Committee. The suggestion of continuous clinical teaching is not in the best interests of either; it means in effect that the anxious and conscientious student will sacrifice the holiday he needs so much, in order to attend vacation clinics, while the gayer and more casual

worker will reap an undeserved advantage. Even the kindly Cohen Committee takes a step in the wrong direction when it suggests that, if the student wishes to use part of his vacation for special work connected with his medical studies, opportunities should be available. On the contrary, the student should be chased out of the place for the entire vacation. If he wishes to visit a clinic abroad, that is another matter; for he has the recreational stimulus of a new, and probably highly diverting, environment.

Something is still lacking. The various committees have tended to regard the student too much in quantitative terms; they have been careful of his capacity as a holder-tank for learning. Or, in a more considerate way, the student has been regarded as an object whose health is to be promoted, who is to play games, and who is to be given the benefit of medical care when sick. All this is good, but the student is also a creature ". . . with such large discourse Looking before and after." And each committee which reports on these matters has a plain duty to show how and when the student has time for eating, resting, reading, thinking, and playing. It would be nonsense to expect a timetable, but mere subtraction from a schedule of work is not good enough. The onus of showing time for other things rests on the committee that proposes a timetable of lectures and practical exercises. Here, for example, is a library —well-stocked, let us hope, for wide reading as well as for exact scientific reference; well lighted, comfortable, and spacious. When do the students have time (not merely snatched moments) to sit there, and read, and browse? At present they have far too little time to themselves, and even their spare evenings are clotted with hand-to-mouth medical fodder.

Let us agree that week-ends are appropriate for exercise, either in organized games or on other outdoor activities. Are we sure that, in addition, there is enough time for fun?

> Cuncta festinat manus, huc at illuc
> cursitant mixtae pueris puellae;
> sordidum flammae trepidant rotantes
> vertice fumum.

(Freely translated:—

"The whole Union's in a bustle; a mingled crowd of boys and girls is milling around all over the place. The flames are flickering brightly, as they blow their filthy smoke aloft in clouds.")

More seriously, the educational value of leisure does not seem to be sufficiently appreciated. The medical undergraduate often misses, owing to his preoccupations, that beneficent mixture of self ordained discipline and freedom which makes the good Students' Union socially triumphant. Hart House at Toronto is probably the finest example of this, but many excellent training grounds for chairmanship and committee activities, for public speaking, and for the art of living exist in other universities. Discussion on matters of general interest, political thinking, writing for the fun of it, making music and enjoying it, these and numberless other ploys (as the Scots call them) are among the best ingredients of the student life, and medical students need them as much as any.

We must not be too pompous about the tutorial benefits of the student health service. It is, first and foremost, a service, and the University of Minnesota, for example, has shown how good it can be made.

Halls of Residence for undergraduates of all faculties are of great value, especially when there are common restaurants for men and women, run on hotel lines by a competent catering staff. The University of Helsinki, which in addition provides apartments for married couples on the same site, is a very attractive experiment in the design for living in college. We all bewail the "isolation" of the general practitioner, but during their years of study and hospital service few medical men get an opportunity of learning anything except medicine. Yet it is pathetic to see that all committees demand in the selection of candidates for medicine the very qualities which they are industriously stifling in the overcrowding of the medical curriculum—broad and humane qualities which will make the student a better doctor and a better citizen.

Special references :—

(1) The Report of the Inter-departmental Committee on Medical Schools (the Goodenough Committee), 1944. [H.M.S.O.]

(2) " The Training of a Doctor ", Report of the Medical Curriculum Committee of the British Medical Association, 1948. (The Cohen Committee.) [Butterworth's Medical Publications.]

STUDENT RECRUITMENT FOR DENTISTRY

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The Dentists' Act, 1878, first made the profession of dentistry subject to statutory regulation, but it was ineffective in prohibiting unregistered practitioners from practising, and the evils attendant upon this led ultimately to the setting up of a Departmental Committee to investigate them, whence came legislative action in the Dentists' Act of 1921. This act virtually restricted the practice of dentistry to registered dentists and registered medical practitioners except that a considerable proportion of the then unqualified practitioners (10,000 approximately), were placed upon the new register and were allowed to call themselves "dentists." The hospital trained practitioners (5,000) were alone allowed to use the title "dental surgeon."

Subsequent to 1921 the sole method of recruitment to the profession has been through the obtaining of a degree or diploma either of a university or one of the royal colleges. There are still about 4,000 "1921 dentists" and 11,000 dental surgeons.

Present Needs

With the total strength of the dental profession approximately 15,000 dentists and dental surgeons, there is an incidence of 1 dentist (using the title comprehensively, as commonly used by the public) to about 3,000 of the population. In terms of previous demand for treatment most dentists do not regard this as representing a gross shortage. It is, however, generally accepted that in terms of need one dentist per 1,200 to 1,500 patients is a more adequate figure. It is interesting to note that in the United States there was in 1947 an incidence of one dentist to 1,795 of the population, and yet one reads of a marked shortage of dentists there. In Sweden there was one dentist to 2,200 persons in 1947. It is admittedly difficult to dogmatise over the real, as compared with theoretical, need. Nevertheless, the advent of the National Health Service must lead to a greater demand for treatment, since the economic factor has undoubtedly been a bar to treatment in the case of a not inconsiderable proportion of the lower income group of the population. To

relate these probable demands to student intake, it has been estimated that it will be necessary to recruit 900 dental students per annum to achieve a total of 20,000 practitioners in the next 20 years, i.e., an incidence of 1 dentist to 2,200 of the population.

The average annual entry pre-1939 was about 350 and during the war years dropped below 300. The number of students entering the Schools in 1946–47 was 570. With an annual entry to the profession of 425, it has been estimated that it would be about 30 years before any effective increase would show itself. In all these considerations it has to be remembered that those persons placed on the Dentists Register under the special provisions of the 1921 Act are now almost wholly in the age group above 50, the result being that the Register is unduly weighted in the higher age groups.

Educational Standards

Twenty-five years ago there was only one post of professorial status in this country, and for the most part dental education was n the hands of a small band of enthusiastic honorary dental surgeons attached to each of the 16 dental hospitals in the United Kingdom. The last fifteen years have shown rapid changes, and changes in the next ten years will undoubtedly be as great. The recommendations of the Inter-Departmental Committee on Dentistry, 1946 (Teviot Committee), have had the effect of placing the responsibility for the teaching of dental students in the hands of the appropriate universities. Numerous whole-time appointments have followed, and the position is well illustrated by the case of Manchester, where in 1948 there were 28 whole-time appointments as compared with two in 1934. Necessarily the standards of teaching and research must rise under such conditions. There has also been a corresponding rise of entrance standards in many of the schools. Most schools now demand the normal university matriculation standards as a minimum entrance requirment. This reflects itself in the qualification taken. In Manchester, in 1938, 14 entered for the L.D.S. diploma, and 10 for the B.D.S. degree; in 1947, six entered for the L.D.S., and 29 for the B.D.S. degree. Similar developments are taking place in other schools in the country. The post-war bulge has, of course, helped to maintain a highly selective entry, but there are already signs in several parts of the country that the number of candidates forthcoming is lessening. Some schools doubted whether they would be able to fill their entry quota for 1948–49.

Cost of Training

The length of the course varies with different schools, but may be taken as between 4 and 6 years. The total cost of the course in fees, books and instruments varies between £300 and £450. The overall cost is appreciably higher than that for medicine, and the duration of the course for the degree is frequently the same, or at most three months less. Unquestionably this factor of cost has led to the recuitment of dental students from a very small section of the community. Further, the incidence of scholarships earmarked for dentistry is very low. In this connection, the Minister of Education, in his review of the whole question of scholarship awards, may be expected to give close attention to the special needs in dentistry.

Recruitment

This is a many faceted problem and one to which a straightforward answer cannot easily be given. Undoubtedly the question of status enters in. The popular music hall conception of the dentist dies hard, and must influence many parents in advising their children on the choice of a career. Undoubtedly the low entrance requirement frequently accepted by those bodies offering the licentiate in dental surgery is responsible for the failure of dentistry to be recognised as a normal university discipline. The present trend towards the degree instead of the licence as the primary qualification is therefore a welcome sign of advance in this direction. Nevertheless the relative status of dentist and doctor is such that with practically identical university entrance requirements and a lower fee outlay, one cannot wonder that parents prefer medicine. At present something like 1,000 applicants exist for 100 places in many British medical schools, whereas quotas have frequently been barely filled in the dental schools. American experience on this point is interesting. In 1938 there were approximately 4,700 applicants to the 39 dental schools and of these 2,300 were accepted. To the 78 medical schools there were 12,000 applicants and slightly over 5,000 were admitted. These figures should be related to the pre-war annual entry to the 16 British dental schools which numbered 340 with a capacity for 500. It has also to be admitted that the work of the dental surgeon is generally more limited in scope than that of the doctor and, one would add, more exacting in terms of the working environment. As to reward for effort, the Spens Committee findings make interesting reading. The evidence was

that 50 per cent. of the profession were earning less than £700 per year. The conclusion of the Spens Committee was that "Most dentists are making net incomes of less than enough to meet minimum middle class expenditure . . . We are left in no doubt that the practice of dentistry is exceptionally arduous, involving as it does the performance of intricate manual work mostly at the chairside for the most part upon the conscious and apprehensive patient."

Experience has shown that boys and girls from senior forms are extremely interested visitors to the dental school, as soon as the popular bogey about the dentist has been dispelled. There is a widespread ignorance of the content of the dental course. It is the same as, or closely related to, the medical course in the first three years, namely:—chemistry, physics, botany, zoology, followed by organic and physical chemistry, anatomy and physiology, as well as metallurgy and dental technology. The latter 2 to 3 years involves the medical subjects, pathology, bacteriology, medicine, surgery, comparative anatomy, as well as the dental subjects. A dispelling of the prevailing ignorance as to what constitutes the dental course together with an adequate scholarship and bursary scheme would go far to provide the much needed recruits to the profession, girls as well as boys. Reference to recent articles in this journal (cf. James Hemming, *Universities Quarterly*, August 1948), provides ample evidence of the reserves of ability and one notes Hemming's point that, in spite of the highly encouraging figures for the growth of sixth forms, the opinion of the head-masters is that much of the best material still does not reach them. It may be mentioned that in some countries, e.g., Finland, women exceed men in numbers of entrants. In Sweden the ratio of women to men dental surgeons is 1 : 3. In this country it is 1 : 20.

Specialisation

While admittedly the scope in dentistry is much less than that in medicine, the future is likely to see a measure of specialisation. This has already gone some way in America. Our own universities are now developing post-graduate studies, both short and long term, the latter leading to higher degrees. The Royal Colleges of Surgeons of England, Edinburgh and Glasgow, have their own recently instituted post-graduate qualifications, fellowships, and higher diplomas. The National Health Service will undoubtedly give an

impetus to post-graduate study by the decision to recognise the dental specialist in its scheme for treatment.

Ancillaries

In any review of the problem of the recruitment of dental students one must include a brief comment on a matter which is exercising the minds of the dental profession—the prospect of "dilution". The various forms of ancillary service that might eventuate are:—(*a*) the dental nurse on the New Zealand pattern (*b*) the dental hygienist on the American pattern, or (*c*) the dental technician-cum-prosthetist.

In New Zealand, for example, the problem of treating the 230,000 school children has been handled by training dental nurses, numbering about 450. The nurse treats the child, doing fillings and extractions of "baby" teeth. The service is supervised by nurse superintendents and four area dental surgeons. The dental profession is on record as welcoming the scheme. Dental hygienists are a variant of the New Zealand dental nurse with a more limited range of responsibility. Dental prosthetists would handle the whole problem of the appliance work for the replacement of lost tissues.

Necessarily, if the use of ancillaries in large numbers be decided on in this country, the question of the recruitment and training of dental surgeons would have to undergo serious reconsideration. The function of the dental surgeon might then be largely diagnostic and consultative rather than executive over a wide range of his present activity.

Summary

Sufficient has been said, it is hoped, to give a picture of the problem affecting recruitment of the dental surgeon of the future. As an element in the provision of an adequate health service its importance cannot be gainsaid. There is obvious need for early action if both calibre and numbers of recruits are to be of the desired standard. The most obvious lines of action would appear to be an effective scholarship system together with an equating of entrance requirements to that which is normal for university entrance.

UNIVERSITY ADMINISTRATION

An investigation by the Universities Quarterly

The administrative structure of the universities have been put to a very severe test over the past four years. A sixty-six per cent. increase in student numbers, ambitious new schemes of capital development and the necessity for appointing large numbers of new staff have all subjected the organisation of the universities to a great strain. It is the purpose of this article to examine this administrative organisation, the difficulties with which it has been confronted and the ways in which it has been adapted to meet the greater demands which are now being made upon it. In order to obtain the necessary information, the *Universities Quarterly* carried out a special investigation, and in the process of this inquiry, of which this article is the result, special visits were paid to the Universities of Birmingham, Bristol, Durham, Manchester, Liverpool, London, Oxford, Reading and the University College of Southampton. Further inquiries were also made of other universities by letter.

Because this article is concerned only with the subject of administration it must not be thought that we set an exaggerated importance upon it. Unless the academic purposes of a university are well conceived the administrative machine is worthless. But the administrative machine, unless it is smooth and efficient, can obstruct and delay the best academic intentions and deflect the teaching staff from their proper functions. As one energetic and frustrated lecturer in Wales put it "The slow and complicated process of decision through a chain of committees and overburdened professors is a barrier to the development of new ideas". It is because we regard good administration as an important means towards university development that we are anxious to make this contribution to the thought which is now being devoted to it. One result of the inquiry was to reveal the surprising ignorance of methods used in other universities. This article may help to pass over some of the frontiers.

It is not only the increasing numbers of students which have made it necessary to consider whether a system of government suited to a small university of 1,000 or 2,000 is adequate when numbers have doubled. The increased dependence on public money makes it necessary for the administrative efficiency of the

universities to be visible to the outside world. The universities cannot maintain their independence unless they are recognised to be spending public money to good purpose. This means not only having an organisation running economically and a group of competent administrators, but providing a living organism capable of looking at itself objectively, of balancing competing claims wisely and of meeting new ideas constructively and with reasonable despatch. Efficiency in its widest sense must mean a capacity for selecting the right staff, for producing well educated students and for contributing to new learning by worthwhile research. These problems are due not merely to a growth in numbers, but to a transition from a simple—almost intimate—organisation to something more complex.

Administrator or Academic

At the present time many changes in the methods of university organisation are taking place, but conversation with almost any professor in any university will result in complaints about the burden of committees and of routine matters, which are regarded as deflecting him from his proper functions of research and teaching. Yet however overpressed, many of them are extremely unwilling to hand over their most troublesome and irrelevant burdens to those whose function it might be to bear them—administrators and senior clerks. The reason given is the danger of putting power in academic matters into the hands of non-academic administrators. There is indeed a delicate division of responsibility here, and a real danger that an unsuitable administrator could cause great harm. But equally the apprehensive teacher can go too far in thinking that muddle heaped up round a professor is preferable to the lifeless efficiency of a machine run by an administrator. In practice those who have experienced the help given by a fair-sized Registrar's staff, organised in such a way that it is intimately concerned with faculty and departmental organisation, usually have nothing but praise for the Registrar and his staff, and would not be without them at any price of greater independence. It is those who have not experienced the right type of administrative staff who fear them. It is not, however, for us to say what organisation any university should adopt, but to indicate which difficulties came most frequently to our notice, and what methods for their solution have been tried.

The real objective of university administration should be to

relieve the teaching staff of those many tiresome and time-consuming activities which they have acquired imperceptibly over the years and which are not really essential to their academic functions, and to give them greater freedom to concentrate on their work as teachers and research workers and to think about the important matters of policy in their own departments and in the university. If the teaching staff is cluttered up with chores they can never step back out of the dust and look at the broad outlines of their work. If one regards the function of the non-academic administrator as that of giving the teaching staff the opportunity to take a broad view of their work and of acting as the responsible ministers assisted by a team of civil servants, there should be less apprehension about the administrators' domain.

Demands of the Committee System

But the problem is not only the relatively simple one of devising a skeleton of lay administrators side by side with the academic staff. However admirable the administrative staff and however numerous the clerks and typewriters, there still remains a formidable burden of academic administration with which professors and lecturers must deal. In this field the demands of committees are the most recurrent complaint. Meetings of Council and Senate and of their committees, and those of faculty boards and sub-committees may demand the attendance of professors as often as six times a week. In addition to this they have the administrative work of running their departments. Moreover there are large numbers of calls on the universities to provide members to serve on government or other committees. Last year Liverpool University had to provide 290 persons to serve on outside bodies, many of which also required attendance at numerous sub-committees. With the demand for university representation on hospital boards, boards of governors, regional advisory committees and the like these demands continue to mount.

One salutary result has been a decreased willingness to set up new committees in the universities themselves. Relief has also been obtained by reducing the frequency of meetings. Some universities, such as Manchester, still have the full number of monthly meetings of Council and Senate during term. In other universities, such as Liverpool, Bristol and Southampton, Senate meetings have been reduced to two a term, and other universities are considering such

a reduction in the future. Council meets only once a term in Southampton, twice a term in Durham. Short of steps of this kind there is a tendency for attendances at meetings to fall, so that decisions may be taken which do not reflect the best interests of those who are absent. On the other hand, longer intervals between meetings, particularly of Senate and Council, may delay business unless the executive officers, and particularly the Vice-Chancellors, are prepared to take urgent decisions in the interval, subject to formal approval later. Under pressure of business it seems inevitable that the Vice-Chancellors must take on more responsibilities of this kind. At Manchester and Liverpool this was frankly admitted, and a similar trend is accepted in most other universities. The lack of criticism of it is a measure of the tact and wisdom of existing Vice-Chancellors.

Centres of Power

The essential need is to think out again where the main centres of effective power should rest, and on what subsidiary points some of the lesser burdens of organisation can be devolved. The system of administration differs from university to university and still more between the federal universities of Oxford, Cambridge, London and Wales and the other universities. For lack of space this article will concentrate on the modern universities of England, in all of which there is a roughly comparable pattern of government. This consists first of a Court which is a huge body, meeting only about once a year, containing eminent local people, representatives of local authorities and members of the university. Its effective executive body is the Council which is made up predominantly of lay members drawn from outside university circles, with a sprinkling of professors upon it. At Manchester the Council consists of 26 members and this order of size is usual. Council usually contains elected members of the non-professorial staff. It is supreme in matters of finance. Secondly there is the Senate, consisting of all the professors in the university, with or without two or three representatives of the junior staff. It is supreme in all academic matters. Below Senate are the various faculties—of Arts, Commerce, Law, Science, Medicine, Engineering and so on. In some cases the faculties do a great deal of business: in others departments covering one part of a faculty, or Boards combining several faculties are the real centres of power below the Senate.

Council

During the inquiry it was extremely rare to meet any criticism of Councils and difficult to form any clear impression of their real, as contrasted with their statutory functions. Relations between Senate and Council appeared to be harmonious, whatever difficulties there may have been before the war. Over a period there has been a natural shift in gravity from Council to Senate, but there appears to be very little impetus to change the relationship between the two faster than it is evolving now. Two main reasons for this harmony may be given. First the role of Council is rarely an initiating one: it is usually a much smaller body than Senate, and as many of its members are accustomed to the time-saving methods of the business world, much of its business is effectively delegated to committees. Its agenda is, therefore, generally well pre-digested, and controversial matters have been thrashed out beforehand by sub-committees or in Senate. Secondly the comparative affluence of the universities at the present time, owing to the size of government grants, has made it less necessary for Council to exercise a strict restraining control over finance. If government money were, in the future, to flow less freely Councils would have to devote more time to scrutinising the university budgets, and relations between professors and the controllers of the purse might be less smooth.

Larger grants have, indeed, given the professors a freer hand in making their plans, but there is also a further reason for the shift in the centre of gravity. Most provincial universities owe their birth to the initiative of a few local families, who provided the drive and money and served on the Council: hence the oustanding difference in organisation from Oxford and Cambridge. The early university colleges were modest affairs and their organisation relatively simple. The Council members could easily follow their development. These university colleges have, however, now grown into far larger, more complex and specialised units, and the authority and experience of the teaching staff has grown with them. Correspondingly it has become more and more difficult for the lay members of Council to have an effective voice in the early stages of new schemes, except where new buildings are required.

It would, however, be very premature to suggest that the place of Councils is disappearing from university life. The experience of Birmingham University is an example: the university has recently raised one million pounds for itself, which would have been

impossible without the assistance of the lay members of Council. But the value of Councils lies not only in their money-raising functions. This point was put specifically to a number of Vice-Chancellors, and their various estimates of the value of Councils may be summarised as follows. First, the existing Councils make it necessary for the Senate to put forward proposals coherently and in a form likely to commend itself to the lay mind and this scrutiny and judgment of proposals by non-academic minds is healthy. Secondly, on practical problems, particularly with reference to building and contracts, the experience of members of Council can be very valuable. Thirdly, the influence of Council members in the region is important: they serve to interpret the university, its needs and its functions, to the industrialists, professional bodies and parents and teachers with whom they come into contact, and to put the teaching staff and students into contact with local needs and openings. Fourthly, as the universities come to be increasingly partners in the organisation of regional and local bodies, it is useful to spread the load of committee work on lay as well as academic shoulders. These arguments do not indicate a vanishing rôle.

Senate

The problems of Senates appear to be far more acute than those of Councils. In small universities such as Durham or Southampton, with a Senate of 21 to 25 members, constructive discussion as a group is still fairly easy. But in the large universities with 60 to 70 members of Senate the atmosphere is much nearer to that of a debating chamber. Constructive discussion and the formulation of policy, which ought to be the function of Senate, can too easily be diverted by criticism of detail or the clash of personalities. Long agenda and inessential diversions may crowd out a proper consideration of important matters of priorities, the balance between subjects or large questions such as those of entrance qualifications.

Must this be so in so large a gathering? The experience of a few universities seems to show that some, at least, of the difficulties can be overcome. In some universities it is still possible for business to come before Senate from a faculty almost un-digested: it may closely affect another faculty without those concerned being aware of it. It may then be referred back to a special committee, or it may be inadequately debated and decided in Senate. Other

universities, such as Liverpool, have for a generation had Steering or Standing Committees which take a pre-view of the Senate agenda a week or two before Senate meets. Others again, such as Birmingham (and Glasgow), have only recently started such committees after some doubt and hesitation, and after a two years' trial have found them very successful. In some universities the Committee only takes business remitted to it by Senate. In others all Senate business is reviewed beforehand. Its composition also varies. In some cases it is only a Deans' Committee, as at Bristol. In others 12–15 members including the Dean and one or two others from each faculty are represented. If, as at Leeds, the professors who are on Council are also on the Senate Steering Committee this ensures that those who may have to speak to a matter on Council will have been aware of its development from the moment it emerged from Faculty.

It appears likely that several universities could improve their procedure by devolving more business to the Steering Committee and by making sure that there has been proper inter-faculty discussion before Senate meetings. But even the most perfect Steering Committee of Senate does not solve the professor's committee ridden life. Badly done it may make Senate meetings duller. Well done, with a properly prepared agenda, on which the three or four of the most important matters are starred for special discussion, it may help to direct discussion along constructive lines. But there still remains the same number of committees as before. At Manchester, for example, where there were during the Autumn Term, 1948, 22 meetings of Senate and Council and their committees, quite apart from faculty meetings and appointments meetings, the demands of Senate committees were particularly criticised. With the exception of the Applications Committee which deals with applications from intending students for exception from the standard regulations and provides very valuable experience to the non-professorial staff, and of the Refectory Committee, all Senate committees are manned by professors. In view of the success of the Applications Committee one or two professors suggested that more junior staff should be called in to give more assistance, for example on the Library Committee. Why they ask should Senate committees be the preserve of professors? For similar reasons it was also suggested at Manchester that more power should be delegated to the Faculties.

The Vice-Chancellor

Before proceeding to a discussion of faculty organisation it may be appropriate here to say a word about the position of Vice-Chancellor. In all the changes and developments the key man is the Vice-Chancellor. At Liverpool he is by Charter defined as the chief academic officer of the university: at Manchester he is not so defined. In either case on him lies the chief burden of interpreting Council to Senate and Senate to Council. He is also in practice the chief administrative officer, and on him, assisted by the Registrar and Bursar, also lies the burden of the everyday administration of the university. While it is usual to appoint men of great academic distinction who have been professors, it is worth noting that out of four recent appointments as Vice-Chancellor or Principal, at Bristol, Southampton, Nottingham and Leeds, two have had no previous experience as teachers in a university, being drawn from the field of public education, and two have been headmasters of public schools. Such selections show how important at the present time the universities consider certain unacademic qualifications to be, and how hard it is to find professors who possess them.

There can be little doubt that the power and authority of Vice-Chancellors has increased over the past ten years. Will it end by being a benevolent dictatorship? It is worth recording that at Oxford and Cambridge where the office of Vice-Chancellor is only held for two years there is a strong body of opinion which holds that appointments should be made permanent.

Faculty Organisation

At this level the divergencies between universities is very great, and it is impossible to describe all the systems in operation and difficult to generalise about them. In Durham University the faculties correspond much more closely to the Oxford and Cambridge model where each branch of subject has its own faculty. Elsewhere subjects or departments are grouped together into larger faculties, the usual faculties being Arts, Law, Science, Medicine and such other faculties as Commerce, Engineering, Architecture, in which the university specialises. Each faculty has its own organisation, which may be the effective policy-making body, or faculties may be grouped together into Boards. For example, at Leeds Arts, Economics and Commerce and Law are grouped into one Board, and Science and Technology into another, the Board being the

important body. In other places, particularly Manchester, individual departments have greater independence, submit their financial estimates direct to Council, and are more separate from the central administrative machine.

The Deans

Faculty organisation appears, in some universities, to give rise to difficulties: in particular the office of Dean, as Chairman of the faculty, with his assistant or sub-deans, often seemed unsatisfactory. These difficulties may be due partly to individual temperament, but also to what appears to be an excessive burden of detailed business laid, in some universities, on the Dean's shoulders. In small faculties the Dean may hold his office permanently. In large faculties he usually holds office for a term of two or three years and this may be repeated. Nominally the office is part-time, and the good administrator or one who is served by good administrators may make it so. But it appeared that many Deans found their burden an onerous and full-time one.

It is evident that there are many interpretations of a Dean's function. One is that he is, as the head of a faculty, the spokesman of his faculty on Senate and Council (if he is on Council) and is responsible for co-ordinating the developments in the departments of his faculty and relating them to other faculties. He is also the students' friend in all cases where the student cannot settle his problems with a particular professor. If in addition to this he has the additional work of meeting constant demands for advice on individual problems of selection; takes the chair at large numbers of staff selection committees, and ensures that new and junior staff are encouraged to play a full part in university life, his own life will permit of little teaching or academic work unless he is ably assisted by assistant deans and a competent administrative machine. The burden of Dean is now so heavy in the medical faculties that many medical deans are permanent and full-time and have a good clerical staff under them. Under these conditions in the medical faculties it is not easy to find a man of sufficient academic distinction who is prepared to give up all his university teaching or clinical work.

If the life of a Dean is a hard one, the problem of finding sub-deans is not an easy one either. In small universities or faculties the post may be held on a part-time basis for a short period, and

can be of value to the individual sub-dean himself. In others there may be lecturers whose contributions to original research are over, and who can be suitably diverted to running the faculty. But viewed as a dead-end job it is liable to be unsatisfactory. At Manchester this office is held by the Secretary of the Faculty, who may be relieved of some of his teaching duties and, in the case of the larger Faculties, is paid an extra £100 a year. The work does however conflict with research and often interferes with the individual's career. At present, consideration is being given to adding the post of Secretary of the Arts Faculty to the Registrar's staff. This change would conform more closely to what is already the practice in Birmingham and Bristol, and is discussed in the section on the organisation of administrative staff.

Junior Staff

Although some professors might be glad to share more of the burden of running faculties and departments with junior staff and some lecturers would be glad to feel less excluded from the general planning of the universities it would not be fair to say, from the results of the inquiry, that there is any enthusiasm on the part of non-professorial staff to take on administrative burdens. Why should there be? On the other hand, some dissatisfaction was expressed here and there about the ignorance in which junior staff were kept about new developments in universities. This was particularly true where the deliberations of Senate and Council are confidential or where the representation of junior staff is inadequate. In most universities non-professorial staff are represented both on Council and Senate, and at many universities such as Newcastle and Birmingham their presence is highly valued. At Southampton they are not only represented, but the minutes of Senate and Council are available in the Senior Common Room for all the staff to see. At Birmingham a University Gazette, on the lines of those long in use in Oxford and Cambridge, has very recently been started, and Manchester University is likely to follow suit. This is the more important since no junior staff serve as representatives on the Senate at Manchester.

The part played by junior staff in faculty organisation also varies. There are the highly democratic faculties such as the Arts faculties at Bristol and Newcastle, where all the staff above the rank of

assistant lecturer serve on the faculty, with the result that membership is 56 at Bristol, 69 at Newcastle, 60 at Manchester. In Manchester the average attendance at a large faculty meeting is 40. With such sizes of meeting proper discussion is impossible. In others, such as the Science faculty at Birmingham, only the professors and one non-professorial member take part, the share of the junior staff being limited to the boards below the faculty, there being two of these boards for the faculty. The one has difficulties from being over democratic; the other from being too autocratic. At Liverpool the junior staff are co-opted by the faculty in the proportion of about one-third. So large is the proportion of non-professorial to professorial staff in the post-war universities that any system by which junior staff serve on Faculty in manageable numbers may result in some lecturers never getting any experience of faculty organisation or university administration before they are appointed to chairs elsewhere. At present it is difficult to avoid this.

It is a debatable point how much administration junior staff should be permitted to undertake. One eminent professor went so far as to say that the acceptance of a chair should also mean frank acceptance of the role of administrator, and that to readers should be left the freedom to do research; on this theory the flower of the university between the age of 30–40 should be protected from any non-academic demands. Others say that it is often the most productive research workers who make the best committee men and sub-deans. Who is right?

Organisation of Administrative Staff

We have in the preceding paragraphs dealt in some detail with the administration of the universities as carried out by the teaching staff. We now come to the part played by the non-academic administrators. What does the basic cadre of lay administrators consist of?

English provincial universities fall into two main types of administrative organisation. The one, which we may call the vertical type, is exemplified at Manchester and Liverpool. There the faculties and departments are fairly self contained. The secretary of the faculty (see page 805) at Manchester is a member of the teaching staff: at Liverpool academic tutors assist the Dean. The Registrar and Vice-Chancellor see the faculty agenda, but the Registrar, who is secretary of all Senate committees, does not attend faculty

meetings, nor play a direct part in faculty organisation. The other type, which may be called the horizontal type, can be found for example at Birmingham, Bristol and Leeds. Here the Registrar and his staff act as the secretaries of all faculty and faculty board meetings and follow faculty developments at first hand. While it is impossible to say positively that one system is better than another, since local circumstances always differ, it was noticeable that at Birmingham and Bristol the Deans seemed less burdened and were thankful for the assistance of the Registrar and his staff. Under either system it seems essential for the Vice-Chancellor and Registrar to be closely concerned with faculty matters and to be able to attend faculty meetings in order to keep faculties in step before impracticable proposals develop too far.

The dividing line between the academic and lay staff must always be delicate and flexible. In order to attract good men and women into the field of university administration it is being found necessary to improve their status: many universities are in process of regrading their administrative staff in line with the academic grades, Registrars having the rank and salary of professors. Some Registrars are apprehensive about the insufficient promotion prospects of assistant registrars. Some professors are apprehensive about the encroaching influence of the administrators. On this a comment from the head of a Science Laboratory in Cambridge has a general application to all universities.

"In order that he may have an interesting job the professional administrator must have important decisions to make himself. It is very important, however, that he should be a tactful man. The teaching staff have to make the decisions about the policy as regards the scope of the teaching course, and of course they must run all the research; they must also keep in their own hands advice to students about their courses, and, what is most important of all, all judgments of relative ability, both of the students and researchers. In such matters contact between the students and the teaching staff must be direct. The wrong kind of administrator does try sometimes to enter this field himself, and then the fat is in the fire. The main objection comes not from the side of the teaching staff but from the men, who resent bitterly the feeling that they have to go through an administrator to their Professor."

From the same Laboratory the following comment may also be of general interest.

"You may be interested to know how we have solved the problem of administration inside the Department. This was very heavy when we were building up the Laboratory again after the war. One thing which has made a great difference has been the appointment of a Laboratory secretary. He

is a University man with a degree, who is interested in administration and does no research or teaching. He looks after the Laboratory finances, engagement of assistants, preparation of agenda for meetings, outside contracts, applications from would-be research students, maintenance of buildings, and a host of other matters. The relief not only to myself but also to the senior members of my teaching staff has been very marked."

Clerical and Administrative Staff

The Registrar and his assistants are usually graduates and no specific qualifications for the work are laid down. In the horizontal universities the assistants are generally attached loosely to faculties or groups of faculties and act as secretary to faculty meetings. In Birmingham the Registrar has four assistants. The value of assistant registrars appears to be appreciated increasingly but it appears that few universities have yet discovered the real economies of better secretarial assistance, and some Deans are struggling with ludicrously inadequate clerical help and with a single telephone on an outer landing which serves a whole corridor of professors. Such economies are completely false. Nor have the virtues and values of the senior clerk been appreciated in all but a few rare instances. Fears are felt about the ambitions of graduate administrators paid on a lecturers' scale. The senior clerk who rises to £500 or £600 a year has no such disadvantages. Serving a life-time in the university he or she can be a rock of comfort to a new Dean by knowing the regulations and all the precedents, and can answer all the elementary questions and relieve the Dean from answering five out of ten of all his letters.

Before those who fear the idea of a small and efficient cadre of administrators reject the idea of adopting new methods and recruiting new men they must first answer an important question. With existing methods can they so free themselves from day-to-day concerns that they are able to think about the big questions of university policy? In struggling constantly with student problems can they think out new methods of selection? In dealing with the ordinary run of admissions and the routine interpretation of entrance regulations, can they really think out the principles of a general education? In drafting minutes of meetings can they determine what the new balance of subjects should be, whether science should rightly preponderate or arts provide a new revival? If a more efficient kind of Secretariat could look after non-academic business the professors might be freer to devote their time to bigger questions,

and to deciding whether they are providing the conditions for full university development.

Admissions

The preceding pages have dealt principally with the main structure of university administration, and the principal officers and organs of government. There are, however, two particular aspects of the administrative work of the universities which continually re-appeared in the course of the inquiry, and seemed to give rise to special difficulties. The one concerned the admission of students: the other the appointment of staff. The reason for the heavy burden which both these functions involve is self-evident. While there is reason to hope that once the universities achieve their full complements of professors and lecturers, and the teaching staff cease to be so restless, the work of appointments committees will decrease, no such comforting reflections can be made about the selection of students. Here the volume of work is more likely to increase than to diminish.

How can the teaching staff and particularly the professors be relieved of unnecessary work in the selection of students, and yet maintain an essential voice in picking students, particularly in decisions which may necessitate distinguishing between the letter of regulations and an intuition which can detect potential talent? Opinion and practice differs greatly on this. One professor has said that the selection of students is 90 per cent. automatic, and could be done by administrators, leaving 10 per cent. to be selected by the professors. Others maintain that beyond the basis interpretation of admission regulations the teaching staff must undertake the whole work of selection.

Generally speaking Honours students are selected by the heads of departments and ordinary degree students more often than not pass through the hands of an admissions tutor or sub-dean who relieves the Dean of as much as possible of this work. In many universities the Admissions Tutor is a recent appointment designed to meet the large increase in candidates. The weight taken by the lay administrative machine is not usually great except in cases where an administrative officer is attached closely to a faculty. Some medical faculties rely heavily on a Senior Clerk for the routine work involved. In Manchester the Economics and Social Studies Faculty has recently appointed an Administrative Assistant, who is

a graduate, for a variety of purposes, one of the principal ones being to sift candidates for the teaching staff.

Methods of selection, whether by special entrance examinations, interviews, or by the more mechanical sifting of Higher School Certificate qualifications must largely govern how a particular department faces the burden of selection. But there is a possibility of experiments in organisation to avoid wasting the time of teaching staff on work on which their academic judgment is not required.

Appointments

Success in choosing the right teaching staff, particularly professors, is probably more important than any other single factor in the success of a university. But the burden of appointments committees is very heavy indeed, however differently different universities organise it. There are two main schools of thought—one that appointments of teaching staff are a purely academic matter and that the Senate or Faculty must be supreme, subject to formal approval by Council; the other that the lay opinion of Council is essential in so critical a matter as professorial appointments, and that an "outside" opinion is a valuable corrective to departmental views or the clash of personalities. As a particular argument against the latter some professors have complained of the partiality of lay members, particularly concerning the political views of candidates. This difficulty may be specially apparent in Economics and Social Science departments.

At Liverpool, Leeds, Reading, Bristol and Southampton for example Chairs are filled by joint committees of Council and Senate, sometimes in fairly equal numbers, sometimes with only a sprinkling of lay members. At Leeds Council and Senate are fairly equally represented. At Liverpool the Selection Committee consists of the Vice-Chancellor, two members of Council, two of Senate, three from the faculty and two outside assessors who do not vote. At Southampton the lay view was found to be very useful.

Birmingham University departs perhaps furthest from this procedure, the effective authority for making appointments resting with the faculties, subject to formal approval. The Dean is chairman of all Selection Committees. In the Faculties of Arts, Commerce and Law the selection committee normally consists of all the professors in the Faculty and the Vice-Chancellor. In Medicine procedure is complicated by the interest of the Teaching Hospital

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and is changing. In Science a selection committee is chosen from among the professors and external assessors are sometimes employed. In all Faculties short lists are sent to leading experts for comment and these comments carefully considered. The whole procedure is now being reconsidered at the university level and a uniform procedure not unlike past procedure in the Faculty of Science is likely to be accepted by the University.

Manchester lies between these two. Council members do not serve on Appointments Committees, although all selections are formally approved by Senate and Council. Senior lecturers, Readers and Professors are usually selected by Ad Hoc Senate Committee nominated by a Standing Committee of Senate. The volume of appointments at Manchester has been so heavy that special measures have had to be taken to meet it. Senate has come to rely more and more heavily on its Appointments Committee. There are now Statutory Committees rather on the lines of those in existence at Oxford and Cambridge. Their composition is decided in advance and reviewed annually by Senate. These Statutory Committees have on them professors from other faculties than the particular one concerned, and the value of these "outside" professors was very much emphasised.

Assessors

Outside assessors are not present in person at Manchester, or Reading for example, although eminent authorities are consulted by letter. Others, like Liverpool and Southampton, attach great importance to their presence because of (*a*) the special questions they can put to candidates, and (*b*) the value to the university of personal contact with distinguished men. There are, indeed, great differences of opinion on the value of assessors. Some say that by choosing its assessors a faculty can decide an appointment. Others hold that it is quite sufficient to consult authoritative persons by letter. Others again hold that local patriotism, departmental jealousies and lack of impartiality can be counteracted by the presence of impartial advisers. There is no absolute answer.

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JOHN MURRAY ON HALLS—A COMMENT

By J. W. L. Adams
Warden of Crewe Hall, Sheffield

With all the respect which is due to one who has achieved so much in the creation of halls of residence as Principal John Murray, there are some views put forward in his article in the February issue of the *Universities Quarterly* which are not shared by those who are concerned with halls in other universities.

Granted that there is as yet no generally accepted philosophy of halls, and that they have to work out their form and functions by reference to the requirements of the civic universities, is not the nearest comparable community, from which experience may be drawn, the college of the older universities? The analogy of a home—least of all a home whose members are not very happily termed by Dr. Murray "inmates"—is misleading. The idea of a home, as Dr. Murray shows in what he says about the treatment of guests, may involve a degree of paternalism which is inappropriate to a society of young persons who ought to be being encouraged to be self-reliant both as persons and as scholars or scientists.

Dr. Murray would banish other members of the university staff from residence in halls largely on the ground that the best wardens "dislike the presence of rivals near the throne." It is to be hoped that we are not going to introduce the *Fuehrerprinzip* into our universities. But the presence of other members of the university staff in a hall senior common room can be of great positive value to the warden and the hall. It offers the junior members wider opportunities for guidance and friendship with men or women of academic distinction, and so promotes closer relations between staff and students. It provides occasional reliefs for the warden and gives him a group of colleagues within the hall whom it may be helpful to consult on problems which arise. It gives experience to younger men who may be useful as wardens in their turn. So far from fearing rivals the good warden will, surely, welcome men of personality as his colleagues; for they have a greater contribution to make to his hall.

It is generally agreed that wardens should not be full time appointments, and that they must play an active part in the academic life of the university. Dr. Murray would, therefore, confine his

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choice to existing members of his academic staff and ensure their sincerity by making the position honorary. But, if good wardens are important and difficult to find, is it not wiser—as many universities now do—to appoint to these positions men or women who appear to have the necessary qualities and require them to teach or research as a secondary occupation? There are other ways of testing sincerity than by making a position honorary. Even in a small hall the warden's task, if it is to be done conscientiously, is more than a casual leisure occupation. To expect a man to carry a full load of teaching or research and act as a warden as well—as has sometimes happened—is asking for one or other of these duties to be neglected or appropriating that legitimate leisure which is essential for the performance of either.

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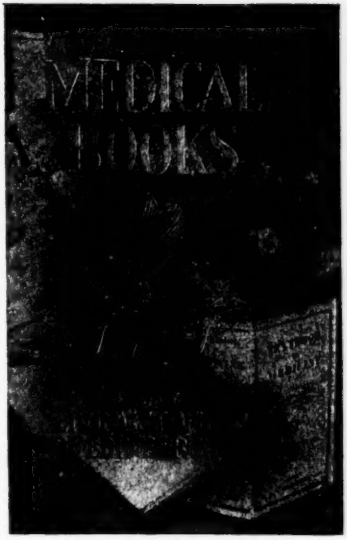

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human freedom. His is certainly a Marxism which, to use his own words, "places individual responsibility in greater or less degree on hundreds, thousands and millions of men . . . all important issues must depend on individuals". Just how he relates this conception to Marxism, readers will be interested to discover. Speaking of the "new morality", which lays stress on working our best with our fellows for a common purpose, he concludes "a society guided by this morality is not one in which the individual is reduced to impotence but, on the contrary, one in which the individual has more scope for his individuality and at the same time is required to use his gifts more strenuously than in any earlier form of human society. The older moralities of humility and self-abasement are as much out of place in the new society as the later ones of independence and self seeking." Certainly these are the great moral questions of our time, and we are grateful to Professor Bernal for a highly informative and provocative treatment of them. The debate continues, but it must do so on a higher level than hitherto for all who have read this stimulating book.

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Professor Bowra's method is one of exposition rather than of criticism. He does not so much attempt to give a value to the poetry which he examines as to explain what the poet is trying to say and to a certain extent why he chooses to say it in the particular way he does. The "story" of the poem is often retold, the motives of the characters pointed out, and the poetry in this way is made more simple for the reader to understand. The method has its limitations as well as its advantages. It is seen working at its best in dealing with poems in which the thought is complex and at

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the same time very deliberate. Such a poem is Eliot's "Waste Land", the essay on which is perhaps the most useful in the book. It is seen at its worst in dealing with poems whose appeal is more direct and instinctive—such as the poems of Garcia Lorca.

In conclusion, "The Creative Experiment" answers a definite need—that of those whose enjoyment of the " moderns " has been disturbed by the technical and other peculiarities of their poetry, but who yet wish to establish contact with the creative endeavour of our times Professor Bowra's book may be exactly the one which will help them most.

P. S.

THE LONDON BOOK OF ENGLISH VERSE. *Selected by* HERBERT READ *and* BONAMY DOBRÉE. (*Eyre and Spottiswoode* 12*s.* 6*d.*)

This anthology is so good that it will create the place for itself among contemporaries which for the older ones among us was held by the Oxford Book of English Verse and of a former generation by the "Golden Treasury". The authors make the case for a new anthology by pointing out that "We have come, speaking in these terms, to what we may call a new literary generation, and our values cannot be the same. We live in a different world; we have had different experiences; the philosophic climate of opinion has altered."

This collection differs from the other two in dealing not mainly with lyrical poetry, but in including also many more examples of " contemplative and epistolary " poems. The feast is a rich one, as there are nearly 700 poems divided into ten sections, which in addition to the usual ones include such categories as:—

descriptive verse of an objective type, descriptive verse of an impressionistic type, moralistic verse, metaphysical verse, the symphonic poem and satirical verse.

The arrangement is perhaps a little baffling, but this is indeed a book for which to be grateful, and one which could only have been produced by such fine students and critics of poetry as the two brilliant collaborators.

E. M. H.

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